

# **HY850-4G Industrial routers**

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## **USER MANUAL**

V1.0

Shenzhen Junhaoyue Technology Co.,Ltd.

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### **ATTENTIONS**

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## ◆ Chapter 1 Product description

HY850 industrial-grade wireless router is a high-performance wireless communication product based on 3G/4G network demand developed by Shenzhen Junhaoyue Technology Co.,Ltd. It is mainly used in the industry user data transmission business, supporting data transparent transmission, image transmission, equipment monitoring and other functions.

HY850 uses a high-performance 32-bit processor, which can process protocols and large amounts of data at high speed, and can be used with a variety of 3G/4G industrial modules (WCDMA/EVDO/TD-SCDMA, TD-LTE/FDD-LTE networks). 10/100M Ethernet port is provided. The router can be connected to a variety of terminal devices.

It supports the WEB configuration mode, and the management is convenient and simple.

## 1.1 Product appearance



## 1.2 Interface description:

Side A:



Side B:

**Side C:****Side A**

1. LAN1/LAN2: Standard RJ45 with light interface; LAN2 can be used as a WAN port in standard router mode.
2. DC power interface: 2.1 mm round-head power interface, Positive inside and Negative outside, voltage input for 5-30V, the power is less than 2W.

**Side B**

1. 4G antenna INTERFACE: SMA external rotation+ internal hole interface.
2. R (reset) key: Press this key for 5 seconds, SYS Lights Flash, and then restart. Reset

succeeds.

3. SIM card slot: self-locking slot. Insert the card slot with the chip facing up and the notch facing right as shown on the silk screen.

### Side C

1. LAN1/LAN2 light: always on after the Ethernet cable is plugged.
2. LINK light(4G dial light): flashes quickly during dialing and remains on after successful dialing.
3. SYS light(system light): flashes slowly after starting the system.

### The Description of indicator status

Name	Status	Description
SYS light	Always on	always on after power-on, indicating that the power supply is normal.
	Flash slowly	About 10 seconds after power-on, it changes from constant light to slow flash, indicating that the system operates normally
	Flash quickly	After pressing the reset key for 5 seconds, the system light will flash. The system will restart later.
LINK indicator	Always on	The connection succeeds.
	Flash slowly	The connection is normal.
	Off	The connection fails.
LAN1、LAN2 灯	Always on	RJ45 port is connected
	Off	RJ45 port is not connected

### The use of RESET Key.

Press the RESET button for 5 seconds, the SYS light will flash, and the router will restart.

### Power interface:

HY850 provides 2.1 mm standard round-hole DC power supply, the electrode is positive inside and negative outside. The supply voltage range is 5-30V.

### Antenna interface:

HY850 has two SMA external rotating aperture antenna interface, corresponding to 4G, 4G sub-antenna. The user can choose the suitable shape and gain antenna. Theoretically, the greater the antenna gain, the better the radio transmitting and receiving effect. 3-8DB gain antenna is recommended. The WIFI antenna is selected according to the user's coverage needs. The router could support up to 15DB gain antenna.

## ◆ Chapter 2 Setup

### 2.1 Connect the devices

You can connect your computer and router through the following steps.

### 2.1.1 Set the IP address of the computer

It is recommended that you set the computer to "automatically obtain the IP address" and "automatically obtain the DNS server address" before accessing the web settings page, and the router will automatically assign the IP address. If you need to assign a static IP address to the computer, you need to set the IP address of the computer and the IP address of the router's LAN port in the same subnet (the default IP address of the router's LAN port is 192.168.1.1, and the subnet mask is 255.255.255.0).

### 2.1.2 Connect via network cable

### 2.1.3 Verify the computer is connected to the router

When your computer shows that it has successfully obtained the IP address, use the Ping command to confirm whether the connection between the computer and the router is successful.

For example, in the Windows 10 environment, execute the Ping command: Ping 192.168.1.1

If the screen shows below, it means that the computer has successfully established a connection with the router.

```
C:\Users\admin>ping 192.168.1.1

正在 Ping 192.168.1.1 具有 32 字节的数据:
来自 192.168.1.1 的回复: 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
来自 192.168.1.1 的回复: 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 = 0ms, 最长 = 0ms, 平均 = 0ms
```

## 2.2 Login router

Next, log in to the router Web setup page.

Type <http://192.168.1.1> in the Web browser address bar, and login username and password in the pop-up login authentication box.

Enter the default user name for the first login: Admin, Password: Admin

登录

http://192.168.1.1  
您与此网站的连接不是私密连接

用户名

密码

## 2.3 Enter the router web settings page

1. After logging in successfully, enter the web settings page, and then you can set up and manage the router.

The screenshot displays the web interface of an M2M 4G Industrial Router. The top navigation bar includes tabs for Home, Status, WAN, 3G/4G, Firewall, VPN, Cloud, and System. The main content area is titled 'Internet Status' and provides detailed information about the router's connection. Key details include:

- Connection Control:** Reconnect, Disconnect, Flight Mode
- WAN Priority:** 3G/4G Modem, always
- Connection Status:** Connected
- Connection Type:** 3G/4G/5G Modem
- Session Uptime:** 0d 00H 01m
- DHCP Lease Expires After:** 0d 23H 58m
- Traffic During The Session:** ↓ 871 B, ↑ 2.51 KiB
- Current Data Rate:** ↓ 0 Kbps, ↑ 0 Kbps
- IPv4 Address WAN:** 10.74.30.13
- Gateway WAN:** 10.74.30.242
- DNS:** 120.80.80.80, 221.5.88.88
- WAN MAC Address:** 16:69:7E:B7:A5:53

A 'More Config...' dropdown menu is visible at the bottom of the Internet Status section.

2. **System log:** If a problem occurs during the use of the router, you could turn to the manufacturer for help, and the manufacturer's staff will request a system log to analyze the cause. Please assist the manufacturer in copying all the contents in the system log.

The screenshot displays the M2M 4G Industrial Router web interface. At the top left, it identifies the device as 'M2M 4G Industrial Router'. The main status area is divided into two columns. The left column shows system metrics: 'Load Avg' with values 0.02, 0.01, and 0.00; 'CPU Load' at 0%; 'Memory Free' at 47.66 MB / 60.18 MB; and 'Uptime' at 0d 00H 07m. The right column shows network information: 'ISP' as China Unicom, 'Signal strength' at 80%, and 'Firmware' as V2.0.9. Below these are 'Logout' and power icons.

The navigation menu includes 'Home', 'Status', 'WAN', '3G/4G', 'Firewall', 'VPN', 'Cloud', and 'System'. The 'System' menu is expanded to show 'System log', 'Network traffic', 'Interface', 'System Log', 'DHCP info', 'Port Forwarding', 'Routing table', and 'Network Session Table'. The 'System log' is selected, showing a log for 'Thu, Jan 01 00:07:50 2015 GMT+0800'. The log entries include:

```

Jan 1 00:06:10 4G: modem cimi: 460014356639912
Jan 1 00:06:10 4G: usim iccid: 89860122801168071566
Jan 1 00:06:11 4G: modem imei: 866930067912031
Jan 1 00:06:11 4G: modem csq: 25
Jan 1 00:06:11 4G: network registration status:Registered,home network!
Jan 1 00:06:15 udhcpc_bound(): DHCP WAN Client
Jan 1 00:06:15 4G: wan_up() WAN up (usb0)
Jan 1 00:06:15 4G: wan addr: 10.74.30.13 (255.0.0.0) - wan gate: 10.74.30.242
Jan 1 00:06:15 dnsmasq[393]: read /etc/hosts - 3 addresses
Jan 1 00:06:15 dnsmasq[393]: read /etc/storage/dnsmasq/hosts - 0 addresses
Jan 1 00:06:15 dnsmasq-dhcp[393]: read /etc/dnsmasq/dhcp/dhcp-hosts.rc
Jan 1 00:06:15 dnsmasq-dhcp[393]: read /etc/storage/dnsmasq/dhcp.conf
Jan 1 00:06:15 dnsmasq[393]: ignoring nameserver 127.0.0.1 - local interface
Jan 1 00:06:15 dnsmasq[393]: using nameserver 120.80.80.80#53
Jan 1 00:06:15 dnsmasq[393]: using nameserver 221.5.88.88#53
Jan 1 00:06:15 4G: wan_up() WAN up (restart_firewall_wan)
Jan 1 00:06:18 di: Internet state: 1, elapsed time: 2s.
Jan 1 00:06:30 4G: start modem status detect

```

At the bottom of the log window are 'Clear', 'Save', and 'Refresh' buttons.

## ◆ Chapter 3 Network

This function is divided into two parts: Wan (external network) and LAN (internal network).

### 3.1 Wan (external network)

**3.1. 1** HY850 can be used as a common router to connect to a broadband network and supports a variety of networking types:

A. Static IP: Fixed IP address can be set. Pay attention to subnet mask and gateway address when filling. Please avoid mistake here.

The screenshot displays the web interface of an M2M 4G Industrial Router. At the top left, it identifies the device as 'M2M 4G Industrial Router'. A status dashboard shows system metrics: Load Avg (0.00, 0.00, 0.00), CPU Load (0%), Memory Free (47.59 MB / 60.18 MB), and Uptime (0d 00H 09m). On the right, it shows ISP (China Unicom), Signal strength (80 % (-63dBm / 25)), and Firmware (V2.0.9) with a Logout button and a power icon.

The main navigation bar includes Home, Status, WAN (selected), 3G/4G, Firewall, VPN, Cloud, and System. Below this, there are sub-tabs for WAN and LAN. The WAN sub-tab is active, showing a sub-menu with WAN, Port forward (UPnP), DMZ, and DDNS.

A light blue informational box states: '4G supports several connection types to WAN. These types are selected from the dropdown menu beside WAN Connection Type. The setting fields differ depending on the connection type you selected.'

The WAN settings are as follows:

- WAN Connection Type: IPoE: Static IP
- Enable shortcut-fe?: Enable for IPv4/IPv6
- WAN IP Settings:
  - IP Address: 10.10.10.10
  - Subnet Mask: 255.255.255.0
  - Default Gateway: 8.8.8.8
  - MTU: 1500 [1300..1500]

**B. Dynamic IP:** connect the front-end network equipment signal to the WAN/LAN2 interface through the network cable, and automatically obtain the IP address without manual setting.

<b>M2M</b> 4G Industrial Router	Load Avg:	0.00 0.00 0.00	ISP:	China Unicom
	CPU Load:	0%	Signal strength:	80 % (-63dBm / 25)
	Memory Free:	47.59 MB / 60.18 MB	Firmware:	V2.0.9
	Uptime:	0d 00H 09m	<input type="button" value="Logout"/> <input type="button" value="Power"/>	

<a href="#">Home</a>	<a href="#">Status</a>	<b>WAN</b>	<a href="#">3G/4G</a>	<a href="#">Firewall</a>	<a href="#">VPN</a>	<a href="#">Cloud</a>	<a href="#">System</a>
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<b>WAN</b>	LAN	WAN	Port forward (UPnP)	DMZ	DDNS
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4G supports several connection types to WAN. These types are selected from the dropdown menu beside WAN Connection Type. The setting fields differ depending on the connection type you selected.

WAN Connection Type:	IPoE: Automatic IP
Enable shortcut-fe?	Enable for IPv4/IPv6
ARP Ping Alive of Remote Gateway?	<input type="checkbox"/>
<b>WAN DNS Settings</b>	
Get the DNS Server Address Automatically?	<input checked="" type="checkbox"/>
<b>Special Requirement from ISP</b>	
Authentication:	No
Host Name:	<input type="text"/>
Vendor Class Identifier:	<input type="text"/>
MAC Address:	<input type="text"/> <input type="button" value="+"/>
Don't Decrement the TTL after Routing:	No, Always Decrement (*)

**C. PPPOE:** Fixed broadband dial-up internet access. It requires no error when filling in broadband account and password.

The screenshot displays the WAN configuration page of a router. The navigation bar at the top includes Home, Status, WAN (selected), 3G/4G, Firewall, VPN, Cloud, and System. Below the navigation bar, there are tabs for WAN (selected) and LAN, and sub-tabs for WAN, Port forward (UPnP), DMZ, and DDNS. A light blue informational box states: "4G supports several connection types to WAN. These types are selected from the dropdown menu beside WAN Connection Type. The setting fields differ depending on the connection type you selected." The main configuration area includes: WAN Connection Type: PPPoE; PPPoE & MAN access: No; Enable shortcut-fe?: Enable for IPv4/IPv6; WAN DNS Settings: Get the DNS Server Address Automatically? (toggle off); PPP VPN Client Setting: User Name: ceshizhanghao; Password: (masked with asterisks); Authentication Algorithm: Auto; MTU: 1492 [1000..1492]; MRU: 1492 [1000..1492]; Automatically send LCP requests?: Yes (selected); Adaptive LCP Echo Interval: No (selected); PPPoE Service Name: (empty); Access Concentrator Name: (empty); Idle Disconnect Time in Seconds: 0 [0..86400]; Additional pppd Options: (empty).

### 3.1.2 Port forwarding (UPNP)

Port forwarding maps the service port of the intranet server host to the external network, so that the external network users can directly access the services provided by the intranet server through the router's external network IP and port.

Enable manual port mapping, and correctly fill the server name, source IP address, port range, intranet IP and local port information in the port forwarding list to perform port forwarding.

Home
Status
WAN
3G/4G
Firewall
VPN
Cloud
System

WAN
LAN
WAN
Port forward (UPnP)
DMZ
DDNS

Port forwarding allows remote computers to connect to a specific computer or service within a private local area network (LAN). For a faster connection, some P2P applications (such as BitTorrent), may also require that you set the port forwarding setting. Please refer to the P2P application's user manual for details.

**Auto Port Forwarding (UPnP)**

Enable IGD UPnP?

Support Protocols: UPnP (\*)

Restrict forwarding rules only to their IP? Yes (\*)

Allow External Port Range: 80 - 65535 [1..65535]

Allow Internal Port Range: 21 - 65535 [1..65535]

Autoclean Rules Interval (sec): 600 [0..86400]

Minimal Rules Before Autoclean: 10 [1..999]

**Manual Port Forwarding**

Enable Manual Port Forwarding?

Famous Server List: Please select

Famous Game List: Please select

**Manual Port Forwarding List**

Service Name	Source IP	Port Range	Local IP	Local Port	Protocol	
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text" value="****"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<span style="border: 1px solid #ccc; padding: 2px 5px;">TCP</span>	<input checked="" type="checkbox"/>
测试1	****	502	192.168.1.10	9000	TCP	<input type="checkbox"/>

Apply

### 3.1.3 Dynamic Domain Name Resolution (DDNS)

Dynamic domain name resolution: you can still access the internal network through the virtual domain name without static IP address. Select the correct server and fill in the relevant information correctly.

The screenshot shows the DDNS configuration page in the router's web interface. The top navigation bar includes Home, Status, WAN (selected), 3G/4G, Firewall, VPN, Cloud, and System. Below the navigation bar, there are tabs for WAN (selected) and LAN. The main content area contains the following settings:

- Dynamic DNS (DDNS) allows you to assign an Internet domain name to a computer with a dynamic IP Address. Currently, several DDNS services are embedded in 4G.**
- The wireless router currently uses a private WAN IP Address (192.168.x.x, 10.x.x.x or 172.16.x.x). This router may be in the multiple-NAT environment and DDNS service will use the external IP from ISP!**
- Enable the DDNS Client?** (Toggle switch: On)
- Service Profile:** www.asus.com (asuscomm)
- Host Name:** Key in the name .asuscomm.com [Register](#)
- Second DDNS Service**
- Service Profile:** Disable
- Common DDNS Settings**
- My Internet IPv4 Address Source:** Autodetect External IP
- Server to Autodetect External IP:** Use default (from profile)
- DDNS Update Period:** 1 day (\*)
- DDNS Forced Update Period:** 10 days (\*) [Update](#)
- Syslog Verbose Level:** 1 (Default)

[Apply](#)

## 3.2 LAN (internal network)

**3.2.1 LAN:** The gateway address can be modified in this interface. The corresponding DHCP service will be automatically adjusted after the gateway address is changed.

The screenshot shows the WAN configuration page with the LAN tab selected. The page includes a navigation bar with tabs for Home, Status, WAN, 3G/4G, Firewall, VPN, Cloud, and System. Below the navigation bar, there are sub-tabs for LAN, DHCP Server, Route, and Switch. A blue box contains the text: "Configure the LAN IP of 4G. The DHCP Server dynamically changes the IP pool when you change the LAN IP." The form fields are as follows:

IP Address:	<input type="text" value="192.168.1.1"/>	192.168.1.1
Subnet Mask:	<input type="text" value="255.255.255.0"/>	255.255.255.0
Enable Spanning Tree Protocol (STP)?	<input checked="" type="checkbox"/>	

At the bottom of the form is a blue "Apply" button.

### 3.2.2 DHCP server

The DHCP server is turned on by default and can be turned off. The intranet IP will not be automatically assigned after it is turned off.

The screenshot shows the WAN configuration page with the DHCP Server tab selected. The page includes a navigation bar with tabs for Home, Status, WAN, 3G/4G, Firewall, VPN, Cloud, and System. Below the navigation bar, there are sub-tabs for LAN, DHCP Server, Route, and Switch. A blue box contains the text: "4G supports up to 253 IP Addresses for your local network. The IP Address of a local machine can be assigned manually by the network administrator or obtained automatically from 4G if the DHCP Server is enabled." The form fields are as follows:

Enable DHCP Server?	<input checked="" type="checkbox"/>	
Domain Name:	<input type="text" value="lan"/>	
IP Pool Starting Address	<input type="text" value="192.168.1.100"/>	
IP Pool Ending Address	<input type="text" value="192.168.1.200"/>	
DHCP Lease Time (sec):	<input type="text" value="86400"/>	[120..604800]
Default Gateway:	<input type="text"/>	

## Chapter 4 3G/4G

### 4.1:HY850 defaults to the 3G/4G wireless routing mode.

The router will automatically identify the corresponding 3G/4G network after inserting the 3G/4G tariff card,. You can also customize the network operator.

## 4.2: APN/VPDN card setting.

Home Status WAN **3G/4G** Firewall VPN Cloud System

cellular 3G/4G AT

Select the type of 3G/3G Modem for your requirements. To disconnect 3G/3G Modem, please go to Status - Modem status and click [Disconnect].

Enable 3G/3G Modem

3G/4G Modem Base Settings

Auto ISP:   **Select corresponding country**  
VPDN or directional card, please set "WAN disconnection detection": - InetDetect.asp

Modem Type: NDIS/xCM/QMI: LTE

Location: other **Access Point Name**

ISP: other

APN Service:

PIN Code:

Dial Number:

Username:

Password:

authentication protocol: PAP/CHAP (auto)

PDP: IP

Preferred Network: Auto

MTU: 1500 [1000..1500]

Modem Dial Control:

## ◆ Chapter 5 Firewall

### 5.1. Website filtering

you can prohibit access to websites in the added list after the function is enabled, As shown below, the access to www.sina.com is prohibited, except for the relevant host address.

The screenshot shows the 'Firewall' configuration page, specifically the 'URL Filter' tab. The interface includes a navigation bar with tabs for Home, Status, WAN, 3G/4G, Firewall (selected), VPN, Cloud, and System. Below the navigation bar, there are sub-tabs for General, Netfilter, URL Filter (selected), MAC Filter, and Network Services Filter. A blue box contains a note: 'Key in the keywords for the sites that you want to block. For example, enter "XXX" in the list The URL filter will block the http://www.abcXXX.com, http://www.XXXbbb.com and so on. Note: Compressed and HTTPS webpages cannot be filtered.' Below this, there is a toggle switch for 'Enable URL Filter?' which is currently turned on. The 'URL Filter' section includes a 'Date to Enable URL Filter:' field with checkboxes for all days of the week (Mo, Tu, We, Th, Fr, Sa, Su) all checked. The 'Time of Day to Enable URL Filter:' field is set to 00:00 - 23:59. There is a 'MAC Address of Filtered Host:' field with a dropdown arrow and an 'Exclude' checkbox. Below this is a 'URL Filter List:' section with a text input field and a '+' button to add entries, and a large empty list area with a '-' button to remove entries. An 'Apply' button is located at the bottom of the page.

## 5.2. MAC access control:

It can control the host with the specified network card address (MAC) to access the network. There are two modes: acceptance mode and rejection mode.

The screenshot shows the Firewall configuration page for the MAC Filter. The top navigation bar includes Home, Status, WAN, 3G/4G, Firewall (selected), VPN, Cloud, and System. Below the navigation bar, there are tabs for General, Netfilter, URL Filter, MAC Filter (selected), and Network Services Filter. A light blue box contains the text: "MAC filter allows you to block packets from devices with specified MAC Address in your LAN and wireless LAN." Below this, the "MAC Filter Mode:" is set to "Accept" in a dropdown menu. The "Block Access to Router Host?" option is a radio button that is currently unselected. The "MAC Filter List:" section has a header with three columns: "MAC Address:", "Time Interval:", and "Days of the Week:". Under "MAC Address:", there is an empty input field with a dropdown arrow. Under "Time Interval:", there are two input fields: "00" and "00", followed by a hyphen, and another two input fields: "23" and "59". Under "Days of the Week:", there are checkboxes for Mo, Tu, We, Th, Fr, Sa, and Su, all of which are checked. To the right of these checkboxes is a plus sign button. Below the input fields is a light blue box with the text "No data in table.". At the bottom of the page is a blue "Apply" button.

## ◆ Chapter 6 VPN

The VPN function supports PPTP, L2TP and OPEN VPN, and is divided into VPN server and VPN client.

### 6.1.1. General VPN client: PPTP

Select PPTP for VPN protocol, correctly fill the VPN server address, user name and password in the corresponding location, and select the corresponding authentication algorithm and encryption algorithm

VPN Client Settings Log

VPN Client Protocol: PPTP

Remote VPN Server (IP or DNS host):

Login: vpntest

Password: .....

Authentication Algorithm: Auto

Encryption Cipher Algorithm: Auto

MTU: 1450 [1000..1460]

MRU: 1450 [1000..1460]

Automatically send LCP requests?

Adaptive LCP Echo Interval:

Additional pppd Options:

VPN dial policy

Number of redials: 3 (0:Disable this feature)

Redial interval: 20 [10..3600]

[All redial attempts failed] execute the action: ReconnectVPN

Settings Depending on Remote VPN Server Role

Restrict Access from VPN Server Site: Yes, but follow Firewall & Port F

Obtaining DNS from VPN Server: No

Route All Traffic through the VPN interface? No

[Run the Script After Connected/Disconnected to VPN Server:](#)

Route to Remote LAN Subnet behind VPN Server

Remote LAN Subnet/Mask: /

### 6.1.2 Refer to PPTP for L2TP setting method

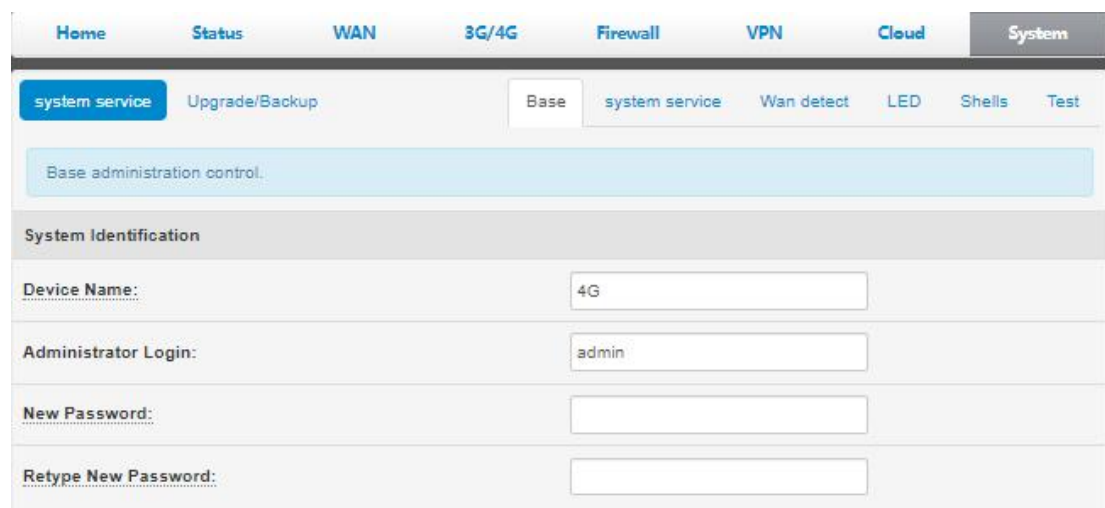
[Log](#)

Static VPN Client extends a private LAN subnets across the Internet (Site-to-Site).

Enable VPN Client?	<input checked="" type="checkbox"/>	
<b>VPN Client Settings</b>		
VPN Client Protocol:	<input type="text" value="L2TP (w/o IPSec)"/>	
Remote VPN Server (IP or DNS host):	<input type="text"/>	
Port:	<input type="text" value="1701"/>	[ 1701 ]
Login:	<input type="text" value="vpntest"/>	
Password:	<input type="password" value="....."/>	<input type="checkbox"/>
Tunnel ip:	<input type="text"/>	
Tunnel Authentication:	<input type="checkbox"/>	
Authentication Algorithm:	<input type="text" value="Auto"/>	
Encryption Cipher Algorithm:	<input type="text" value="Auto"/>	
MTU:	<input type="text" value="1450"/>	[1000..1460]
MRU:	<input type="text" value="1450"/>	[1000..1460]
Automatically send LCP requests?	<input checked="" type="checkbox"/>	
Adaptive LCP Echo Interval:	<input type="checkbox"/>	
Additional l2tp Options:	<input type="text"/>	
Additional pppd Options:	<input type="text"/>	

## ◆ Chapter 7 system management

**7.1.1 Basic settings:** You can modify the device name, administrator account and password on this page.



The screenshot shows a web interface for system configuration. At the top, there is a navigation bar with tabs: Home, Status, WAN, 3G/4G, Firewall, VPN, Cloud, and System. Below this, there is a sub-menu with tabs: system service, Upgrade/Backup, Base, system service, Wan detect, LED, Shells, and Test. The main content area is titled "Base administration control." and contains a section for "System Identification". This section has four rows of input fields: "Device Name:" with the value "4G", "Administrator Login:" with the value "admin", "New Password:" (empty), and "Retype New Password:" (empty).

### 7.1.2. Disconnection detection

The working principle of disconnection detection is to send PING packets to the specified IP address. The sent PING packets can receive feedback from the host IP or domain name under normal network conditions. If no feedback is received for 5 consecutive times, the system will judge it as offline. The router will redial. (The interval and retry times can be modified)

Home	Status	WAN	3G/4G	Firewall	VPN	Cloud	System	
system service		Upgrade/Backup	Base	system service	Wan detect	LED	Shells	Test
<p>Internet Detector monitors access to the Internet and allows to perform the required actions when the state of Internet access changes.</p>								
Internet Detector Poll Mode			Continuous polling					
List of Internet Hosts for Check TCP Connection								
Remote Server Address and Port 1:			baidu.com	:	80	[ip or domain]		
Remote Server Address and Port 2:			qq.com	:	80	[ip or domain]		
Remote Server Address and Port 3:			114.114.114.114	:	53	[ip]		
Remote Server Address and Port 4:			223.5.5.5	:	53	[ip]		
Remote Server Address and Port 5:			8.8.8.8	:	53	[ip]		
Remote Server Address and Port 6:			208.67.222.222	:	53	[ip]		
Internet Hosts Polling Settings								
Poll Interval After Connection Success/Failed (s):			55	/	5	[55 / 5]		
Connection Timeout (s):			3			[1..10]		
Events when the State of Internet Access is Changed								
Delay Before Raise [Internet Lost] Event (s):			5			[0..600]		
Perform Action on [Internet Lost] Event:			Reconnect WAN					
Pause Before Run New WAN Connection (s):			2			[0..600]		
Run the Script When the State of Internet Access is Changed:								
Network failure:								
Check count:		Router reboot		Reset 4G module		Reset 4G module by power off		
3		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		

## 7.2 Upgrade/Backup

### Firmware upgrade:

You can load the latest version of software to the router to obtain more functions and more stable performance through software upgrade.

The software upgrade steps are as follows:

- (1) Save the router's upgrade file to the local computer.
- (2) Click the<Select File>button to select the software to be upgraded.

(3) Click the<Upload>button to start the upgrade.

During the upgrade process, the router cannot be powered off, and the factory settings need to be restored after the upgrade.

Home Status WAN 3G/4G Firewall VPN Cloud System

system service Upgrade/Backup Firmware Upgrade Configuration

Follow instructions listed below:

1. Check if any new version of firmware is available on "http://iot-wrt.cn:5212/" Account.
2. Download a proper version to your local machine.
3. Specify the path of and name of the downloaded file in the [New Firmware File].
4. Click [Upload] to upload the file to router. Uploading process takes about 2-3 minutes.
5. After receiving a correct firmware file, router will automatically start the upgrade process. The system reboots after the upgrading process is finished.

Product ID: 4G

Firmware Version: V2.0.9 - Nov 9 2022 15:12:22

New Firmware File: 选择文件 未选择任何文件

Factory Default:

Upload

Note:

1. For a configuration parameter existing both in the old and new firmware, its setting will be kept during the upgrade process.
2. In case the upgrade process fails, router enters the emergency mode automatically. The LED signals at the front panel will indicate such situation. Use the Firmware Restoration utility on the CD to do system recovery.

## 7.3 Restore/Export/Upload Settings

**A. Restore factory settings:** The wireless router will restart during the restoration process.

Restoring to the factory settings will clear all the setting information of the wireless router and restore to the original state. This function is generally used when the device is switched from one network environment to another. Reset the router to more suitable for the current networking after restoring the device to the factory settings.

Steps: Click the<Reset> button. And click the <Confirm> button and restore the factory settings.

**B. Export settings:** You can export the current parameters of the router to a local file as a backup. When multiple devices need to set the same parameters, you can directly upload this file.

**C. Upload settings:** click<Select File>to find the saved configuration file. Click<Upload>to start updating router parameters.

Home Status WAN 3G/4G Firewall VPN Cloud System

system service Upgrade/Backup Firmware Upgrade Configuration

This function allows you to save current router settings to a file or load settings from a file.

**Router Settings (NVRAM)**

Factory Default:

Save Setting to a File:

Restore Settings from a File:  未选择任何文件

NVRAM to Flash Memory Committing Mode: Always after changes (\*)

Commit NVRAM Content to Flash Memory Now:

**Router Internal Storage (/etc/storage)**

Factory Default:

Storage Backup:

Restore Storage from a Backup file:  未选择任何文件

Save Network Traffic History to Internal Storage? Yes, w/o commit to flash (\*)

Save Current System Time to Internal Storage? Yes (\*)

Commit Internal Storage to Flash Memory Now: