2.4 G Wireless Radio Wireless transmission terminal equipment

User manual

Contents

Chapter 1 Product Introduction

1.1 Product Attachment

Thank you for purchasing / installing this product! Before you begin, please make sure the package is equipped with the following items:

(1)2.4 G Wireless Radio Wireless LAN remote equipment
(2) Ethernet power converters and power supplies
(3) Lock with screw
(4) RJ-45 Ethernet cable
(5) User's manual

1.2 Product Introduction

This Access Point supports 2.4GHz band, which is complying with IEEE 802.11b/ g/ n wireless standards.

It offers transfer rates up to 300Mbps in 2.4GHz bands. It is suitable for online video application and transfer data quickly. With the support of the optional 2.4GHz band, user could avoid the interference produced by other devices.

2.4 G Wireless Radio uses Atheros AR9344 platform, which is a high performance for IEEE 802.11 b / g / n 2x2 target market， AP solutions. AR9344 uses the latest 802.11n technology, data transfer rate up to 300Mbps, data throughput is common 802.11b / g wireless device three times. In addition, AR9344 also has a high data throughput, high power and high performance characteristics, such as security, is a high-quality wireless solutions.

1.3 Feature:

HW :

Support 802.11 b/g/n mode with 2.4GHz， and support MIMO 2(TX)*2(RX) data stream

RoHS compliant

Supports one 10/100 Mbps LAN complying with802.3

Auto MDI/MDI-X support

16MB Flash, 64MB SDRAM

Passive POE support 12V， RJ45 Pin 4&5(V+) 和 Pin 7&8 (V-)；

Passive POE Voltage input range ： DC9V ~ DC16V， Standard: DC12V；

mode 802.11n, MIMO 2 * 2 MCS7 down mode, the uplink and downlink data throughput of the whole state average power consumption of less than 9W;

Support LED signal strength indicator;

SW :

Support Watchdog (CPU built-in watchdog timer, support chips restart)

Support signal strength display;;

Support WDS mode

Support system software reset

SNMP v1/v2

Support ACK Time Out setting

Support 802.1d Spanning Tree

Support AP Mode, Client MAC NAT Mode, Client WDS Mode , Repeater Mode, Gateway Mode

WPA with PSK/TKIP/AES support ,WPA2 support

Support 64/128/152 bit WEP encryption

Radius Support

Dhcp Server Support

1.4 Appearance Introduction

#	Name	Function
1	LED Indicator Light	Indication the power, the network connection status and the signal strength.
2	LAN Outlet	Network outlet, it supports network bridge structures and the POE power supply.
3	WAN Outlet	Network outlet
4	Back cover opening	Through this opening ,users can open the back cover to connect the network and reset the syste

1.5 LED Status Description

	LED status	Description
Power	Steady Green	Normal Operation
Power	OFF	No Power
WAN	Steady Yellow	Link is active
WAN	OFF	No connection
	4 Steady Green	Best signal strength
	3 Steady Green	Better signal strength
	2 Steady Green	Good signal strength
	1 Steady Green	Low signal strength
	OFF	NO connection

Chapter 2 Equipment installation

2.1 Preparing for Installation

Before beginning installation of equipment, at least with the following conditions:

1. One computer installed 10/100 Base-TX Fast Ethernet card or adaptive compatible with 802.11b/g/n wireless card.
Ethernet card attached to this computer needs to be set to automatically obtain an IP address, or can be associated with a default IP address of this device. (Default IP address is "192.168.1.20", IP address can be configured as an Ethernet card required "192.168.1.X", where "X" can be any number other than 20 between 2-254.)

2. PC can be equipped with Microsoft IE 6.0 or higher browser version (recommended) to log the device Web Management Interface.
3. Two network cable for connecting the device to the computer.

2.2 Hardware Installation

1. Wall screws have to be installed first in locations where is expected to install this equipment. Because of differences of the installation environment, users may need to drill, put gecko expansion screws, and let the screws attach to the expansion screws and other operations
2. Align the screw holes on the rear of the equipment and let the device hanging on the wall.
3. Open the cover underneath the device and connect the network cable to the LAN interface in the left.
4. Connect the network cable to the Ethernet Power Adapter.
5. Another network cable to connect to computer and Ethernet Power Adapter
After the power supply is connected Ethernet power converter, plug the power supply into the wall outlet

Chapter 3 Enter the WEB management interface

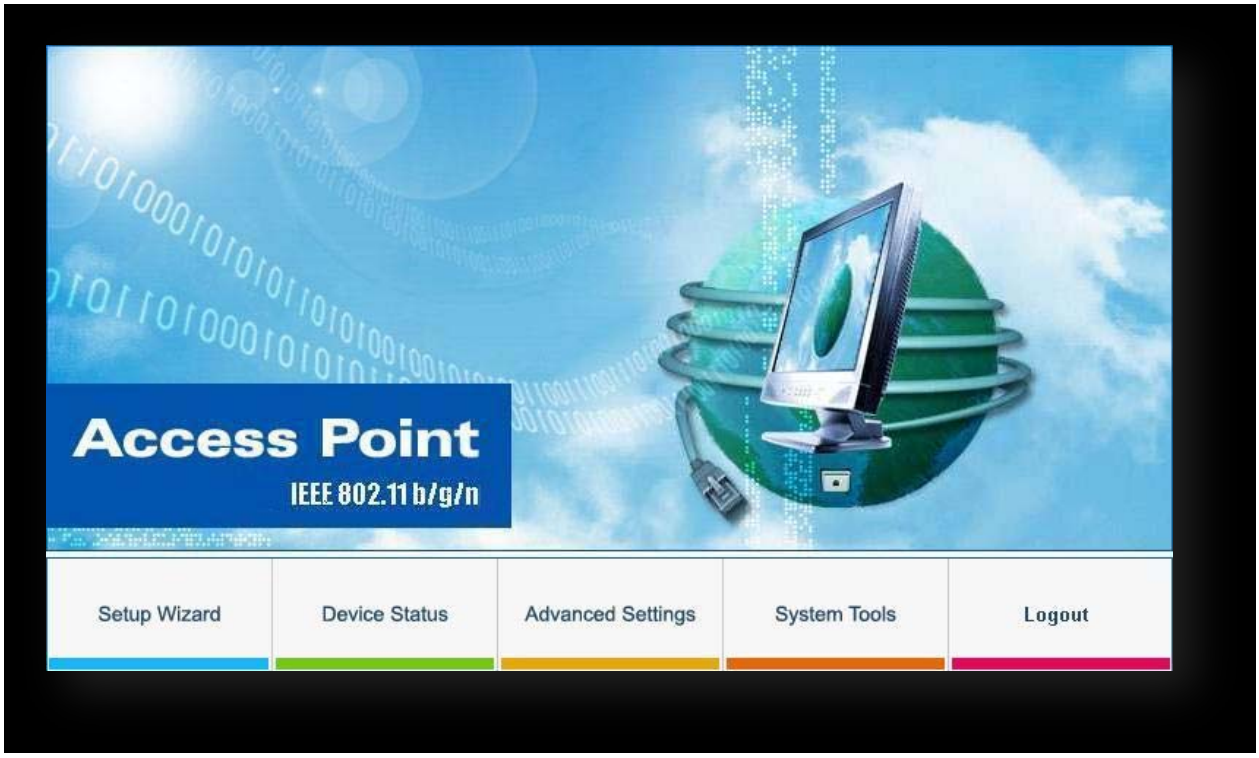
3.1 Enter the WEB management interface

1. Enter the IP address of the device in the browser address bar. The default address of the device is “192.168.1.20”.

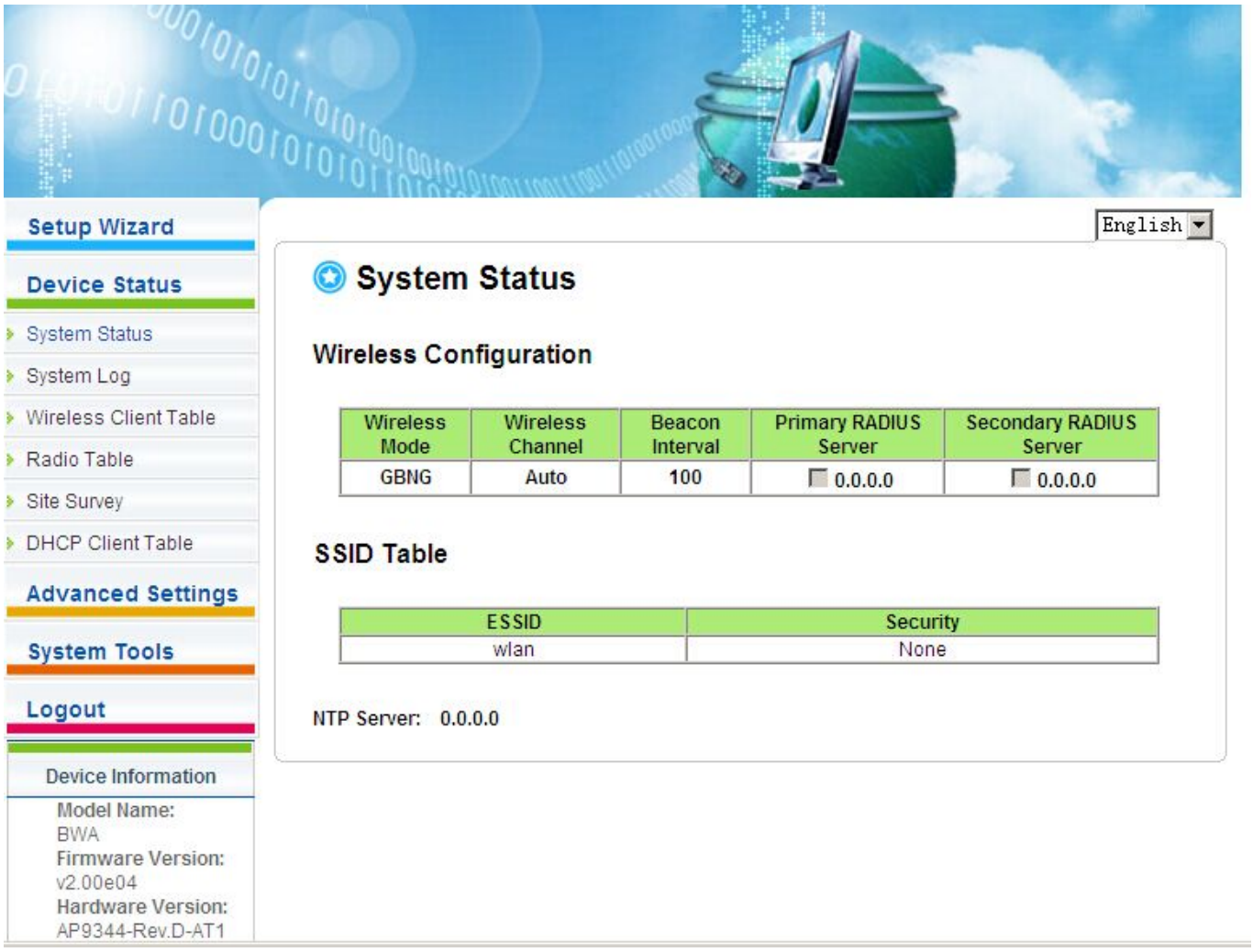
2. The Management authorization window will jump out from the system. Please enter your user name and the password. The default value of the device is both “admin”.

3. When you enter the right user name and password, you will enter the Web management interface

.



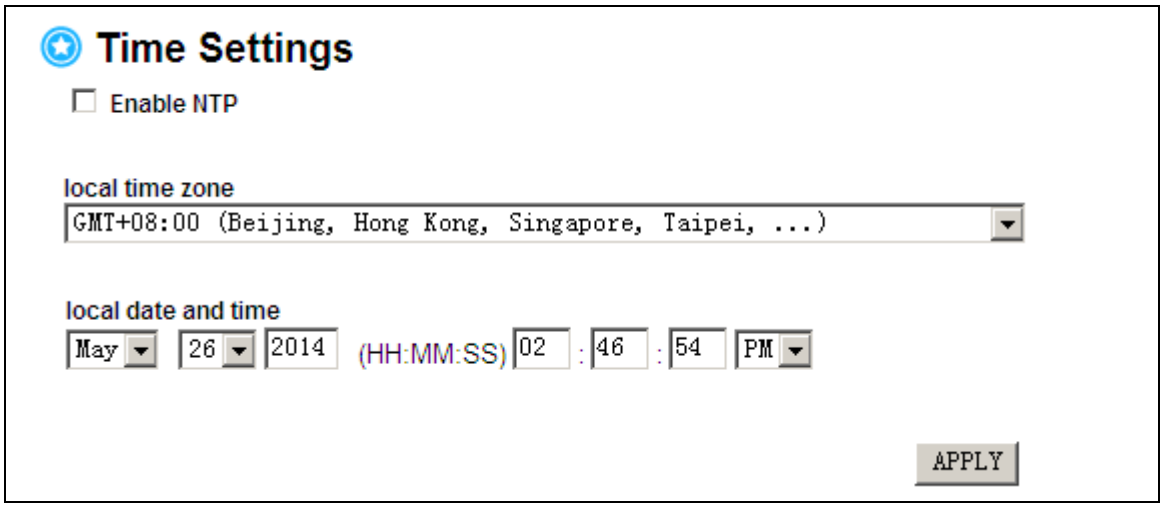
4. Tap any button and then you can set the function. There are 4 parts in the settings interface: the title bar (top)、the menu bar (left)、Configuration interface (right) and the scene Selection (bottom). The title bar mainly shows the name of the device and the company logo; the menu bar shows the clear hierarchical navigation, and every navigation items all link to the configuration interface of the corresponding function module, in the same time shows in the configuration area; in the scene selection, you can change the language options, including Chinese and English.



Chapter 4 Setup Wizard

4.1 Time Settings

Click “Setup Wizard”>“Time Settings”, enter the time setting interface.

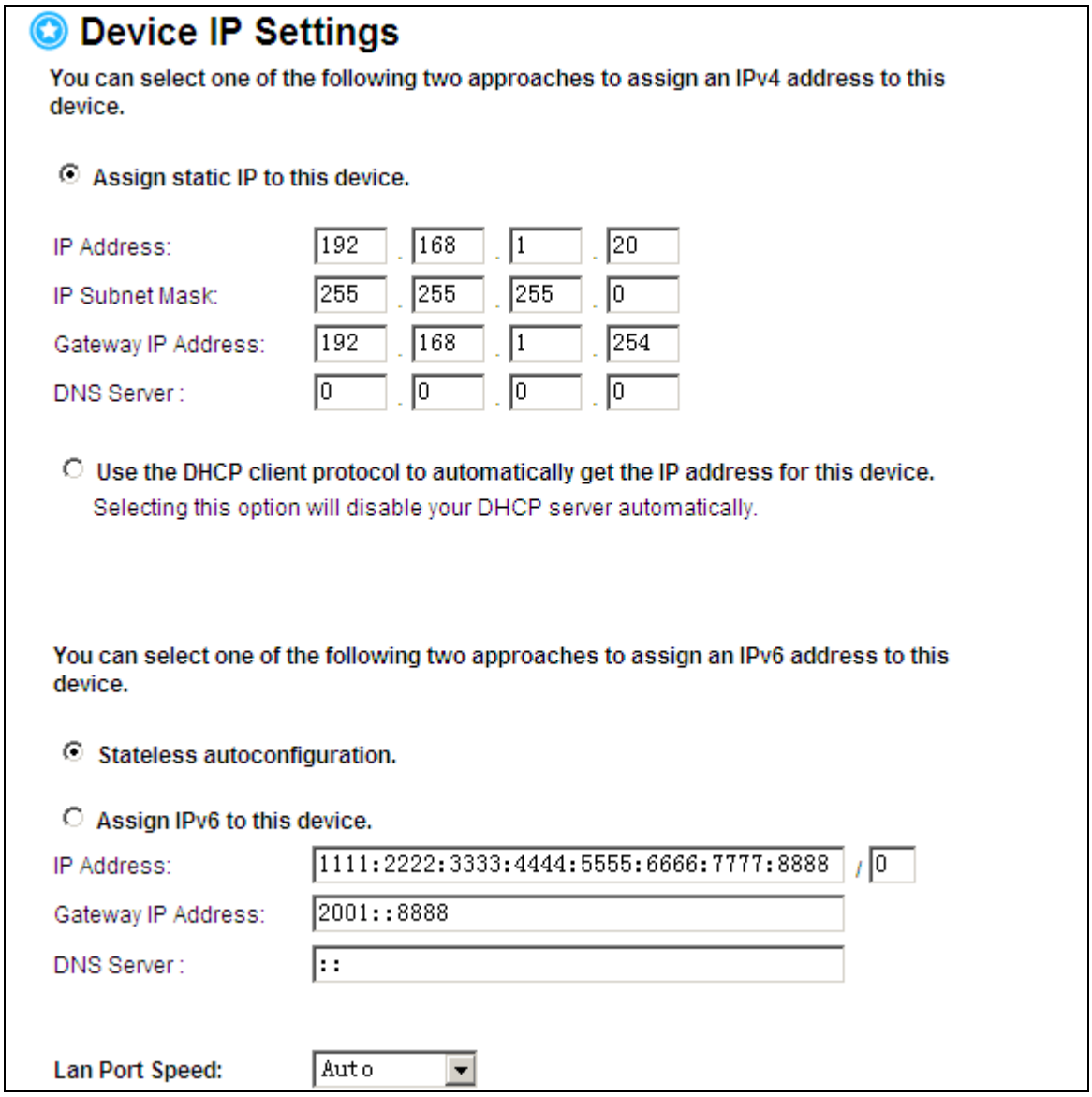


In the Time Settings interface, user can choose “Enable NIP” to make the device synchronize with an NTP network time server in time. Or you can manually set the local time zone, local date and time.

After setting, click “APPLY” button to make the settings take effect.

4.2 Device IP Settings

Click “Setup Wizard”>“Device IP Settings”, enter the Device IP Settings interface.

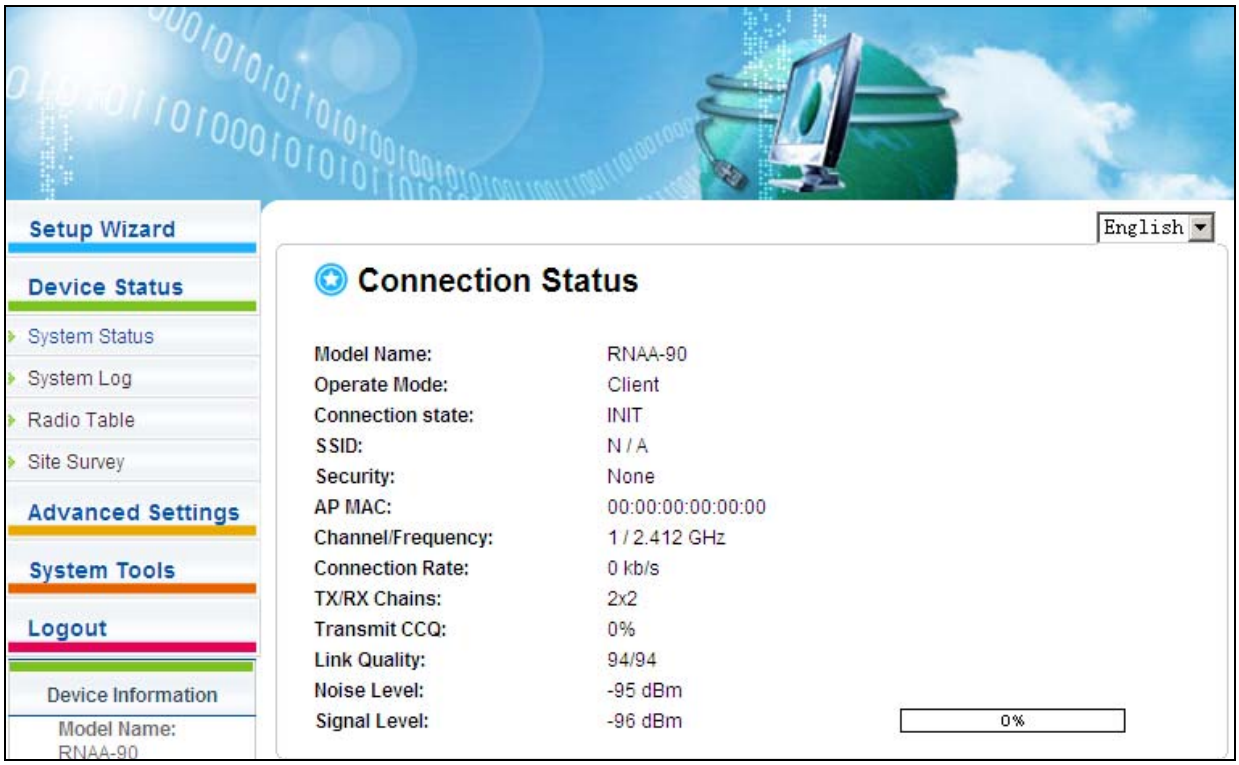


Users can choose to set a static IP manually or obtain an IP address automatically via DHCP server. The default IP of the system is “192.168.1.20”、the IP Subnet mask is “255.255.255.0”、the Gateway IP address is “192.168.1.254”、 the IP address of the DNS server is “0.0.0.0” .

Users can also set the speed of the LAN terminal velocity in this interface.

After setting, click “OK” button to save the configuration.

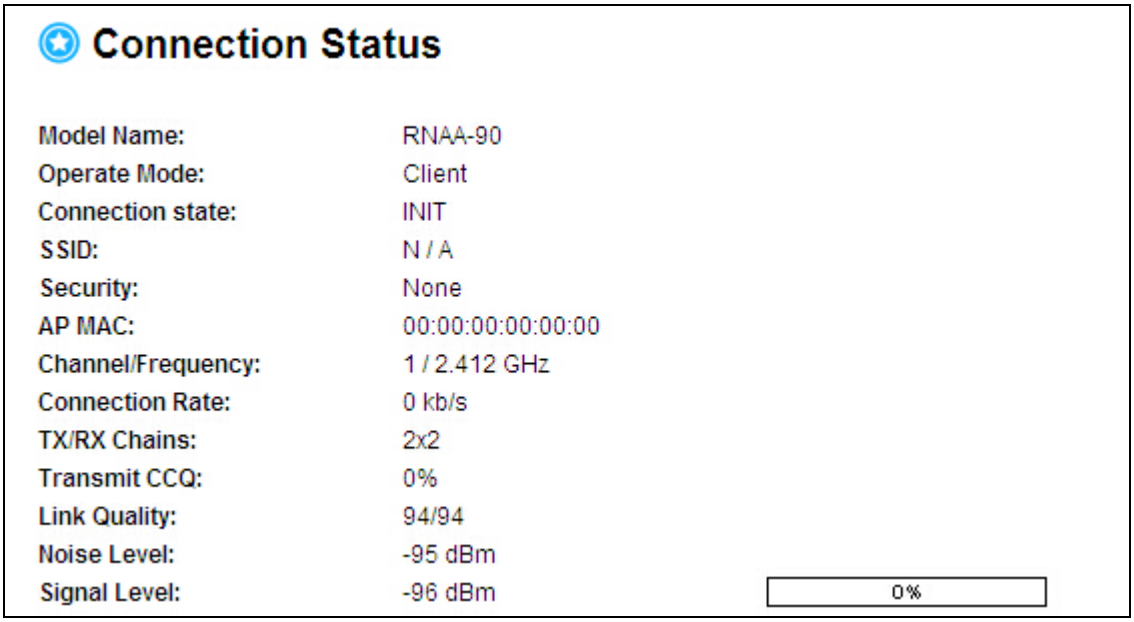
Chapter 5 Device Status



Click “Setup Wizard”, enter the Basic Settings interface.

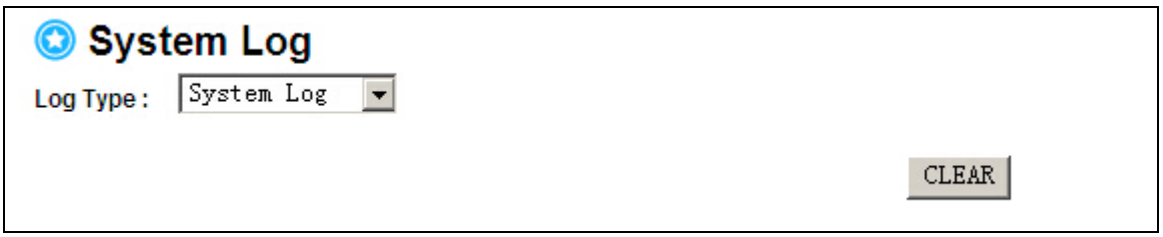
5.1 System Status

Click “Device Status” > “System Status”, then you can view the system connection status.



5.2 System Log

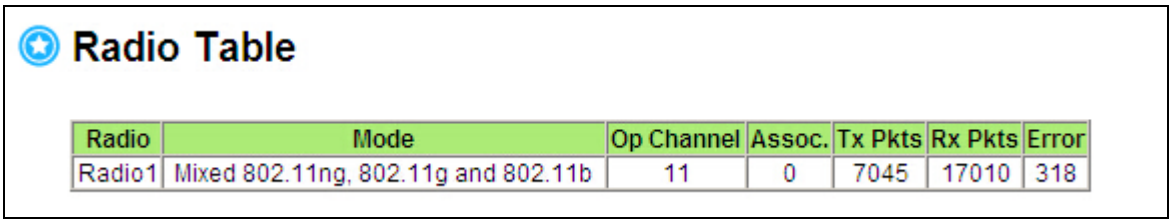
Click “Device Status” > “System Log”, enter the systems log interface.



In this interface, you can view the system running record of the device. Click “clear” button, you will delete all the current log data.

5.3 Radio Table

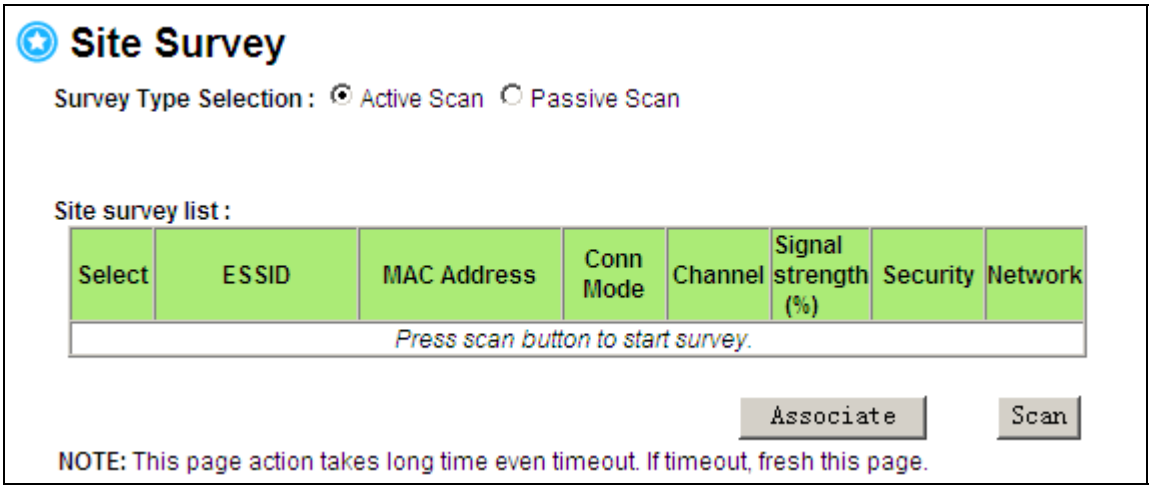
Click “Device Status” > “Radio Table”, enter the Radio Table interface.



In this interface, users can view the information about the radio device Radio, including Radio name、Mode、Option Channel、Tx Packets、Rx Packets and the number of the record errors.

5.4 Site Survey

Click “Device Status” > “Site Survey”, enter the Site Survey interface.



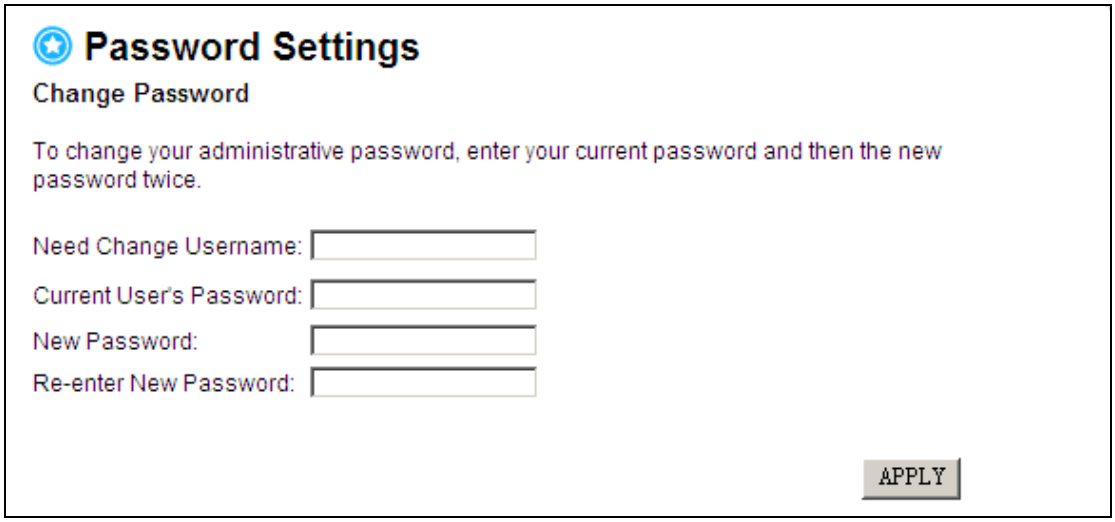
In this interface, users can search the wireless AP devices and Ad hoc network client devices around. And you also can view the device ESSID Name、MAC Address、Wireless Connection Mode、Channel、Signal Strength (%)、Security and the Belongs Network.

Chapter 6 Advanced Settings

Click the "advanced Settings" option, enter the advanced Settings page.

6.1 The Password Settings

Click the "advanced Settings" > "password", enter the password Settings page.

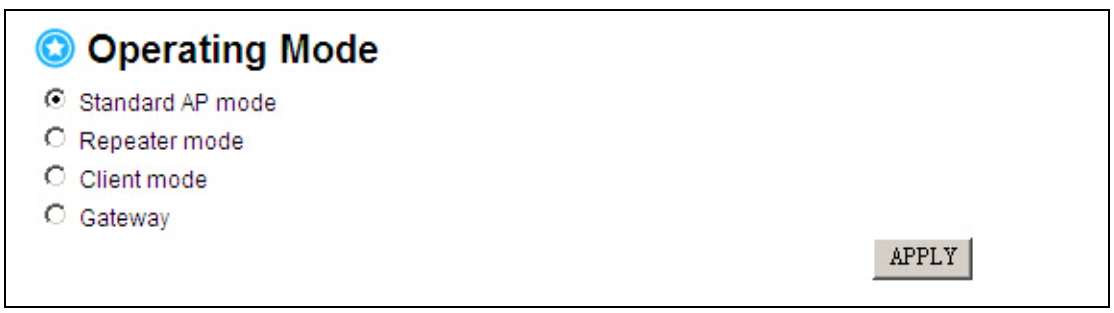


User can login on this page to modify the Web page of the account and password. The system default account and password is "admin". Enter the current password in "the current user password", enter new account user name in the "change account user name", enter a new password in the "new password", and you need to enter a new password confirmation.

If you forget your password, you can first recovery equipment factory default, then use the default password to log on to the Web page.

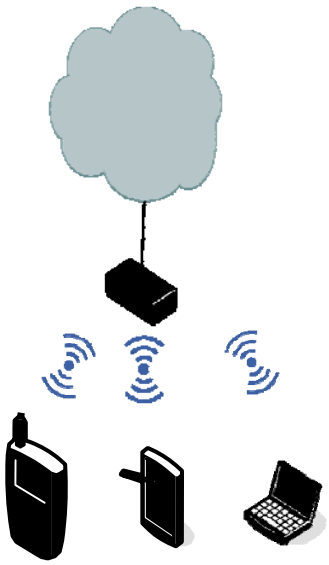
6.2 Operating Mode

Click the "advanced Settings" > "operation mode", enter the page of operating mode. Click on the corresponding operation mode, and click "ok" button to enable it.



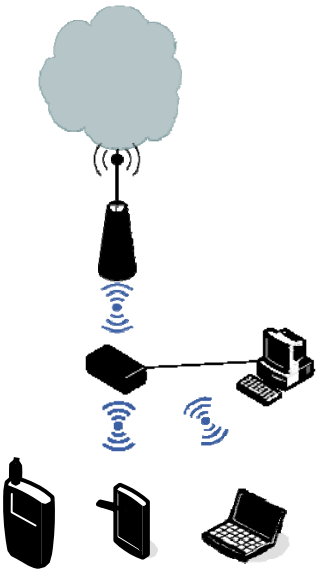
6.2.1 Standard AP Mode

Under this mode, the client device connected to the Internet through the cable port, and it launch wi-fi signals for mobile phones, laptops and other kinds of terminals so as to provide wireless Internet connection service. The specific work pattern as shown in the figure below.



6.2.2 Relay Mode

Under this mode, the client and the access point connection is established first, computers can through cable party after a client to access the Internet, mobile phones, laptops and other kinds of terminal can wirelessly via the client relay access to the network. The specific working mode is shown in the figure below.

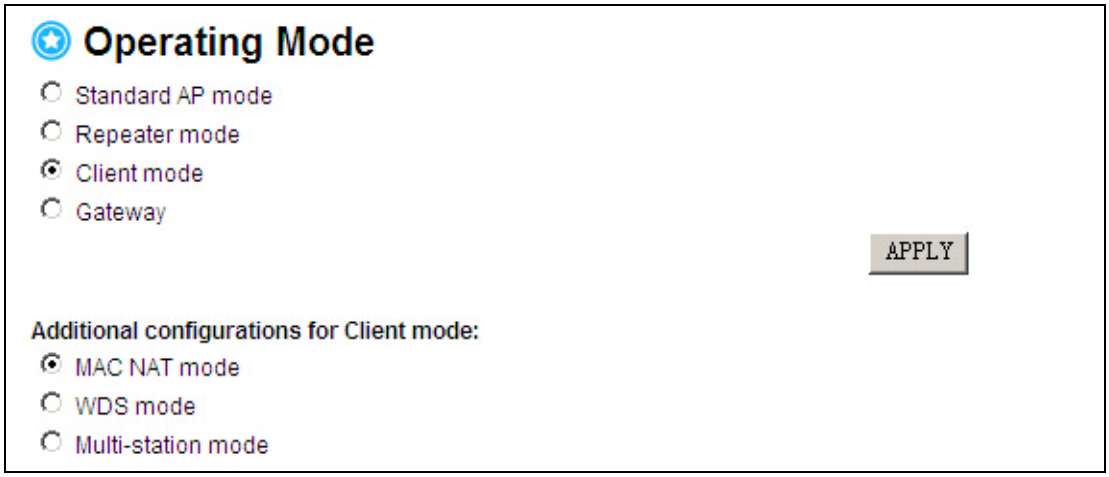


6.2.3 Client Mode

Client mode has MAC NAT and WDS two modes:

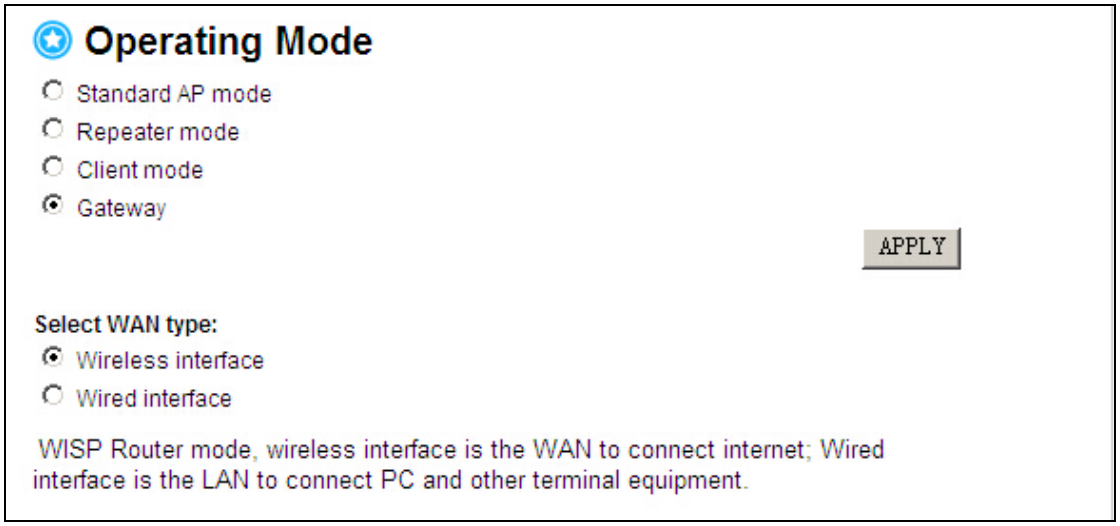
Under MAC NAT mode, the client can connect more than one PC, only one PC need to do the portal authentication. Others do not have to do certification;

Under WDS mode, the client can connect more than one PC, and it support Portal, PPPOE single certification.

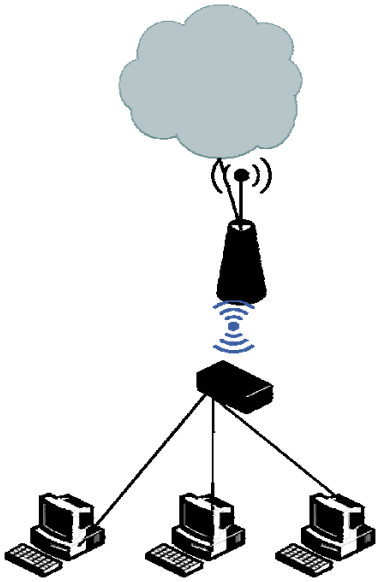


6.2.4 Routing Mode

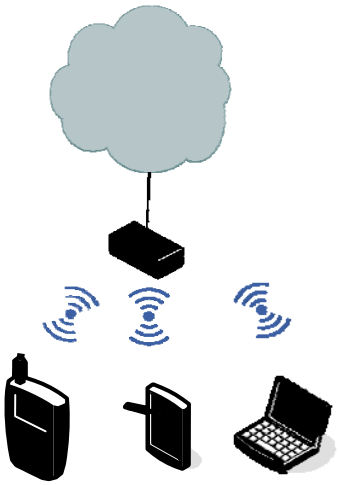
There are two kinds of routing model: the WISP router and AP router. Both of them can be achieved by wireless and wired mouth 1/2 respectively.



WISP router mode connection diagram is as follows: client devices associated with AP and obtain an IP address, the IP address of the PC is obtained the client device internal distribution.

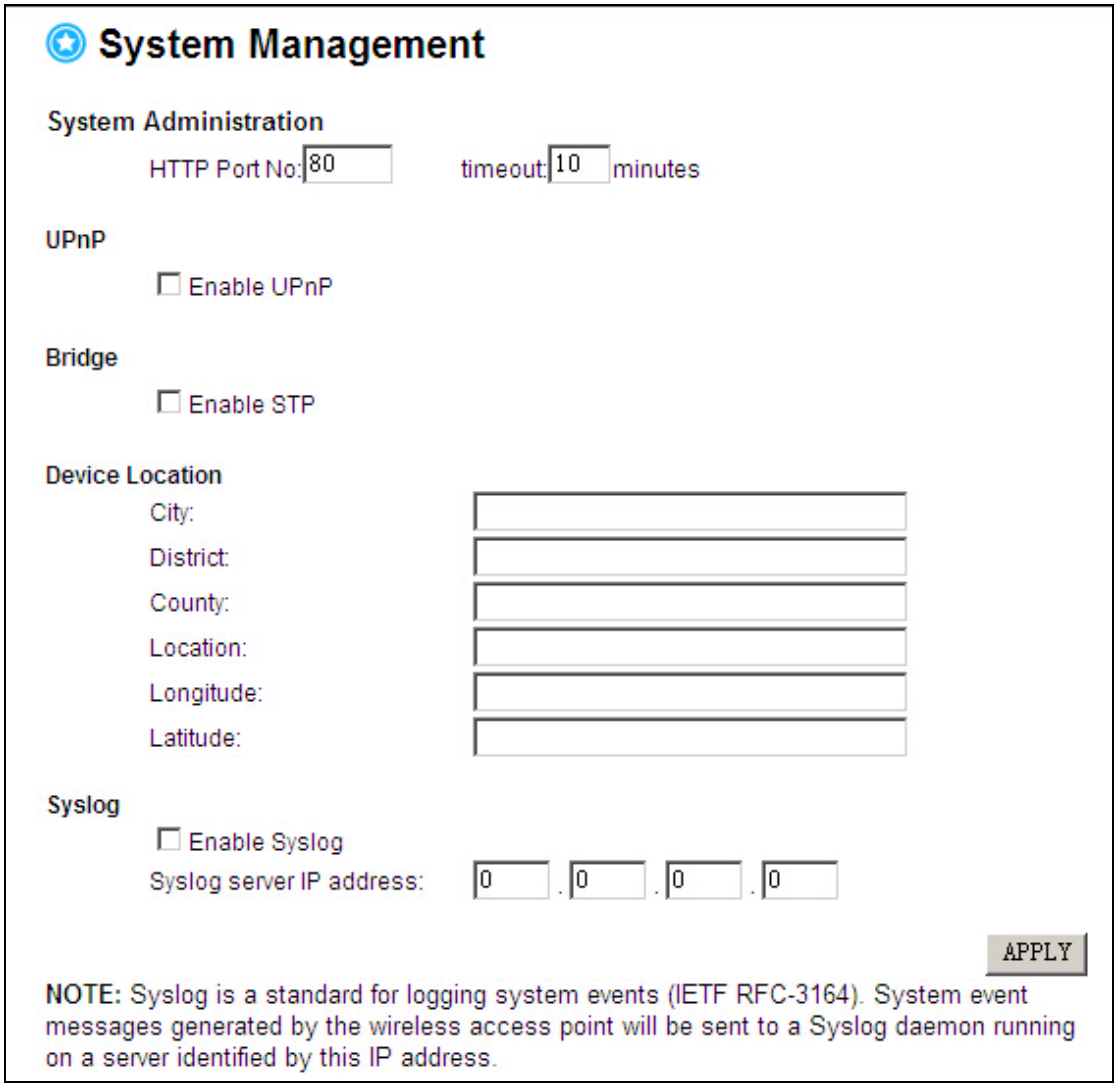


AP router mode connection diagram is as follows: similar with the AP with standard pattern, but compatible with the routing functions.



6.3 The system management

Click the "advanced Settings" > "system management", enter the page of system management.



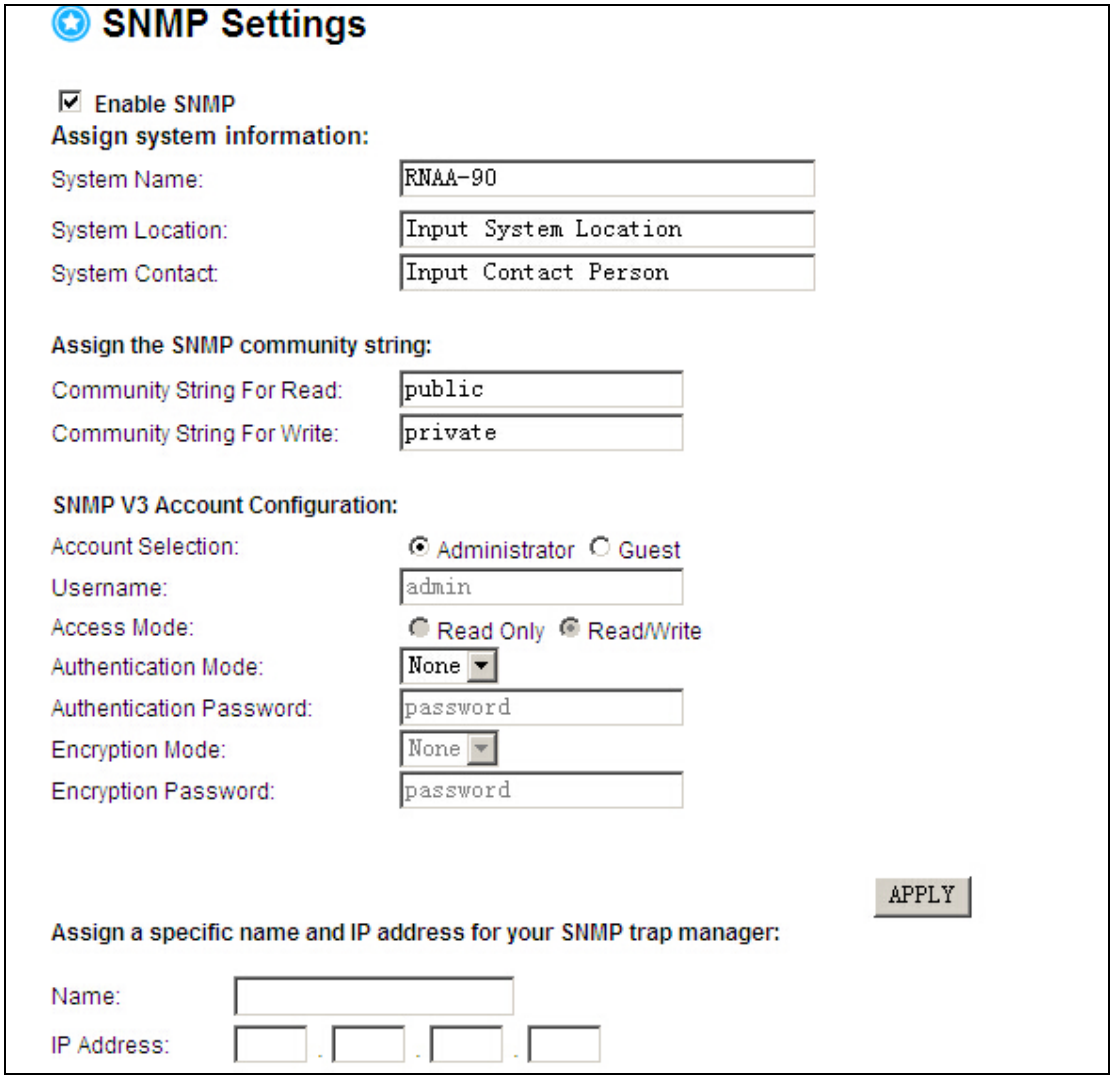
The parameters specify as follows:

Setting	description
System management	HTTP port number：enter HTTP Service port number. The default setting is "80". timeout：Set the appropriate HTTP connection time.
UPnP	Select whether to enable UPnP. Enable UPnP (universal plug and play) can promote the
network bridge	Select whether to enable STP。 Enable STP(spanning tree protocol) can prevent network in
system log	Select whether to enable system record to keep system running events and information.

When setting is completed, click the "Apply" button to save the configuration.

6.4 The SNMP Settings

Click on the "advanced Settings" > "SNMP Settings", enter the SNMP Settings page.



SNMP refers to Simple Network Management Protocol. Use SNMP function can let the SNMP management station do some remote monitoring and management to AP.

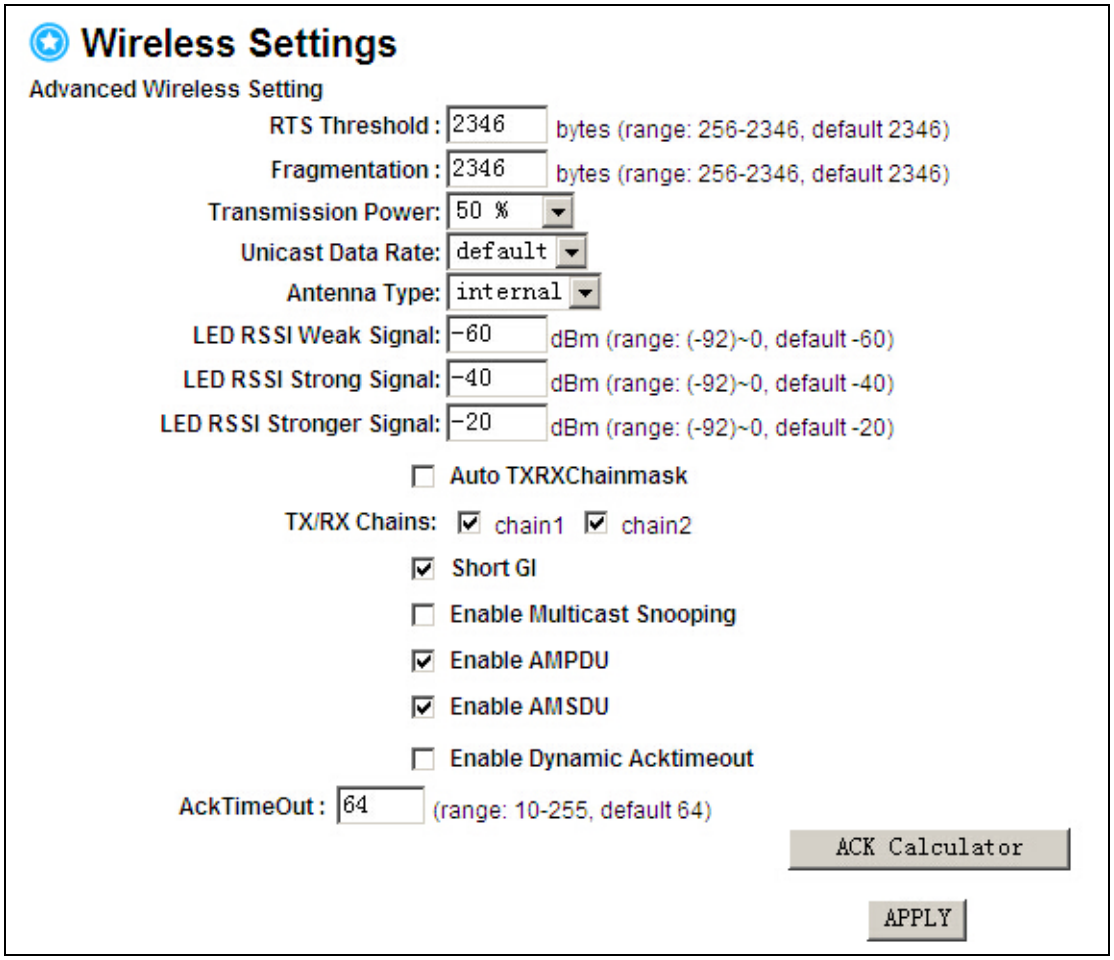
You can specify different groups for different permissions name to restrict part of the action of certain management stations. By configuring the Trap function, you can make the agent side when necessary feedback to management stations send the alarm event or related information.

Settings	Descripitions
Set the system	Input devices system name, location and system

Set the SNMP community strings	Readable string group: input SNMP management stations, read the node password Writable community string: input SNMP management stations, read the node password
SNMP V3 Account configuration	Input SNMP V3 account configuration parameter Settings，Including account number, name, access, authentication, authentication password, encryption, and encrypted password.
Send a SNMP trap instruction to set a name and IP address	Set to send SNMP Trap management server name and IP address. Click the "add" button to make the Settings to take effect. In management server, you can view the SNMP Trap management server name and IP address information, or click "delete" button to delete the selected server.

6.5 Wireless Settings

Click the "advanced Settings" > "wireless Settings", enter the wireless advanced configuration page. On this page you can in the face of the advanced properties of Radio wireless network connection Settings.



Settings	Descripitions
RTS threshold	Gives the packet RTS (Request to Send, Send the Request) threshold.
Fragmentation threshold	Specify the packet shard maximum length. Its value must be even, range between 256-2346, the default value is "2346".
Transmit power	Set up a wireless network transmission power.
Set up a wireless	Choose wireless unicast transmission data rate.
ANTENNA	
The LED signal strength threshold	Set threshold for weak degree LED signal strength. The scope for (-92) - 0,
The LED signal strength threshold	Set threshold for medium degree LED signal strength. The scope for (-92) - 0, the default value is "-40".
The LED signal strength threshold	Set threshold for strong degree LED signal strength. The scope for (-92) - 0, the default value is "-20".
Short GI	Select whether to enable Short GI. Enabling Short GI reduce protection interval time can increase the data

To enable multicasting	Select whether to enable multicasting. Multicast watched for multicast management and control
Enable AMPDU	Choose whether to open AMPDU. This option is available in 802.11 n mode.
Enable AMSDU	Choose whether to open AMSDU. This option is available in 802.11 n mode
Open automatically set	Set up an ACK packet timeout. The range of 10-255, the default value is "64".

6.6 QoS Settings

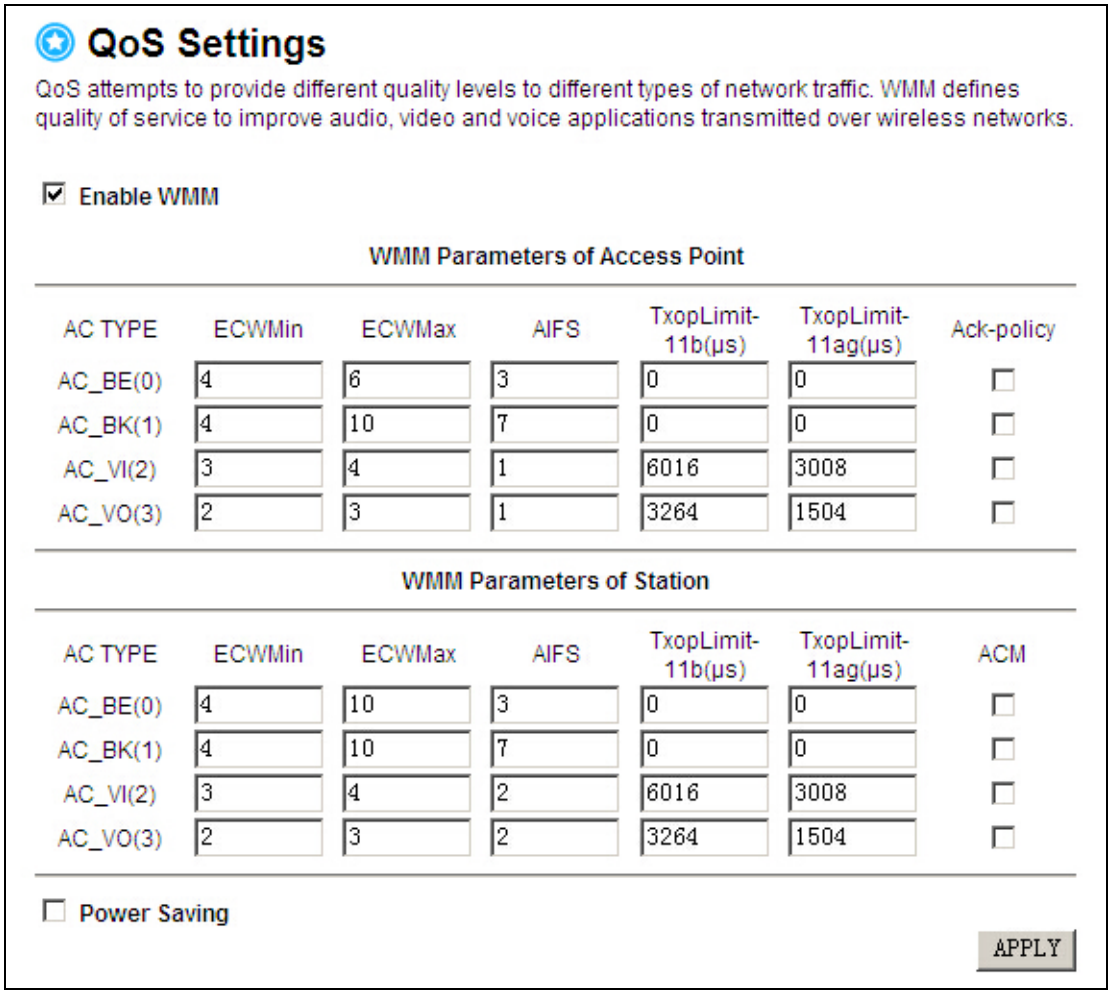
Click on the "advanced Settings" > "QoS Settings", enter the QoS Settings page.

QoS (Quality of Service) Service Quality Settings can provide different types of network transmission with different Quality; WMM (wireless multimedia) is a subset of the standard 802.11 e, it allows the wireless communication defines a priority according to the data type.

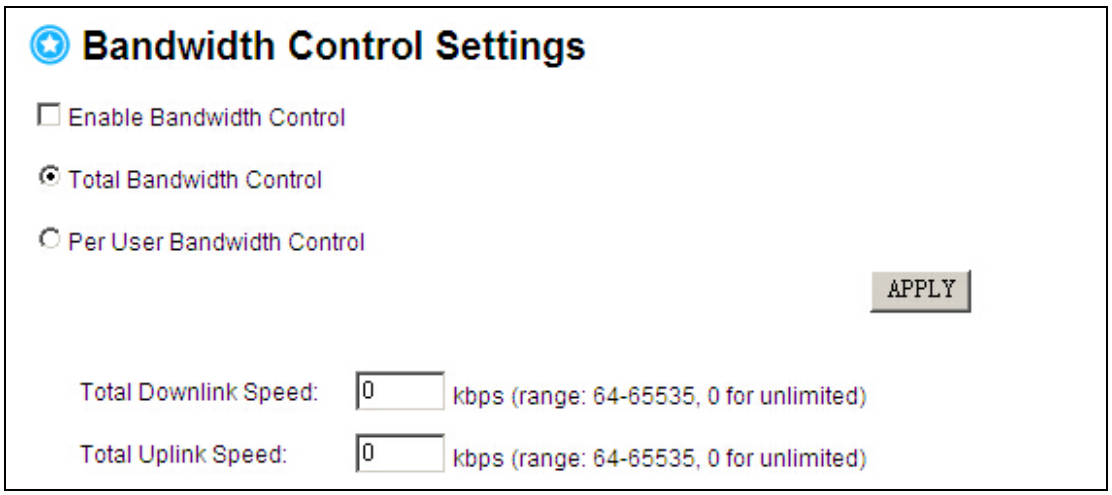
On this page, you can choose to enable WMM, and set up the AP equipment and wireless client Station WMM parameters, improve wireless client video and audio application in the wireless network transmission quality. You can also select whether to enable power saving mode to save power consumption equipment.

6.7 Traffic Control Settings

Click on the "advanced Settings" > "flow control Settings", enter the flow control Settings page.

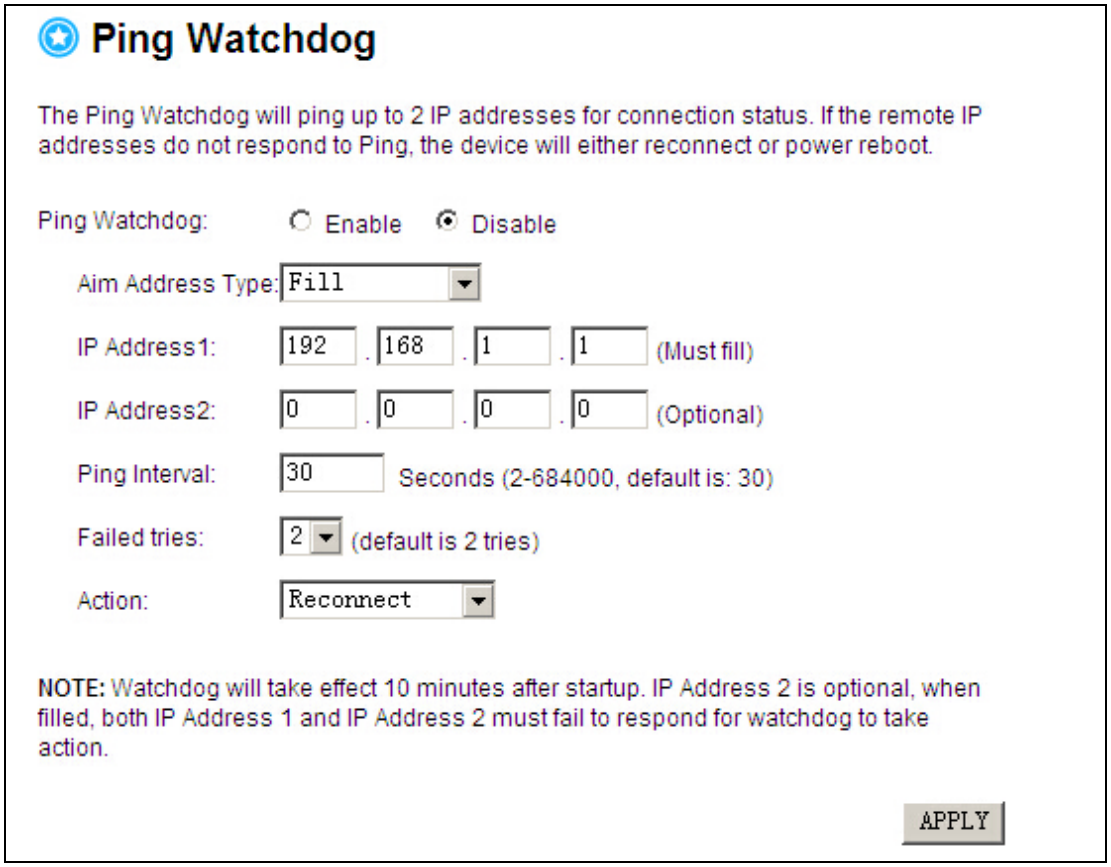


Users can do traffic and flow control on the page. Helping administrators allocate bandwidth resources reasonable, prevent the network congestion by controlling the total uplink, downlink network connection speed, prevent high-speed download or malicious contract caused by excessive network bandwidth. In addition, it can also limit the use of P2P software, safety nets collaterals smooth operation.



6.8 Ping Watchdog set up

Click on the "advanced Settings" > "Ping Watchdog set", enter the Ping Watchdog Settings page.

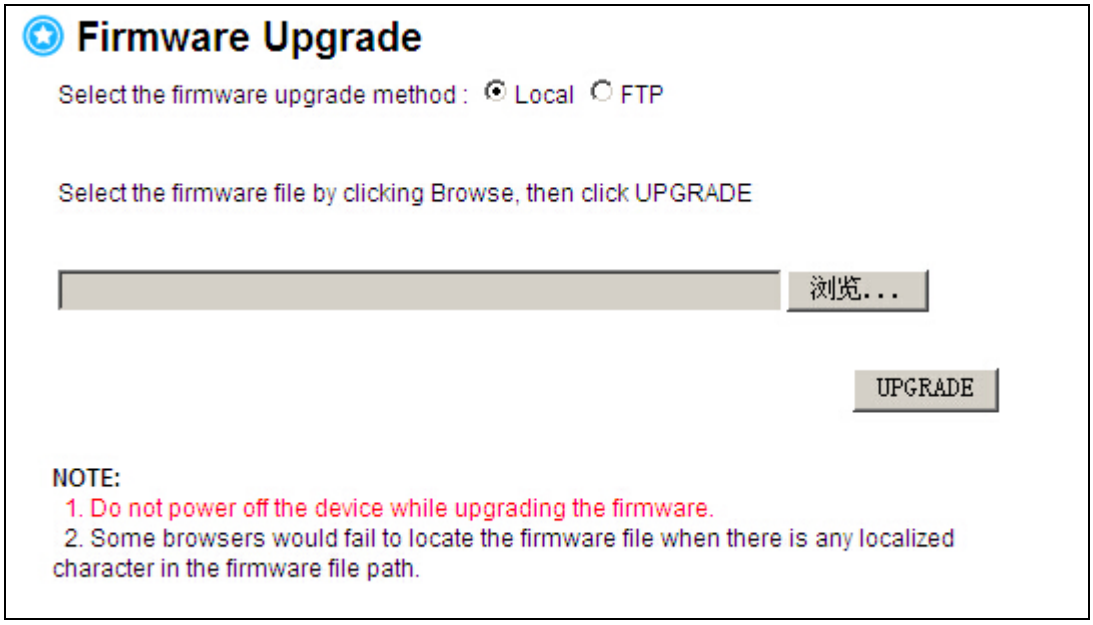


Chapter 7 System Tools

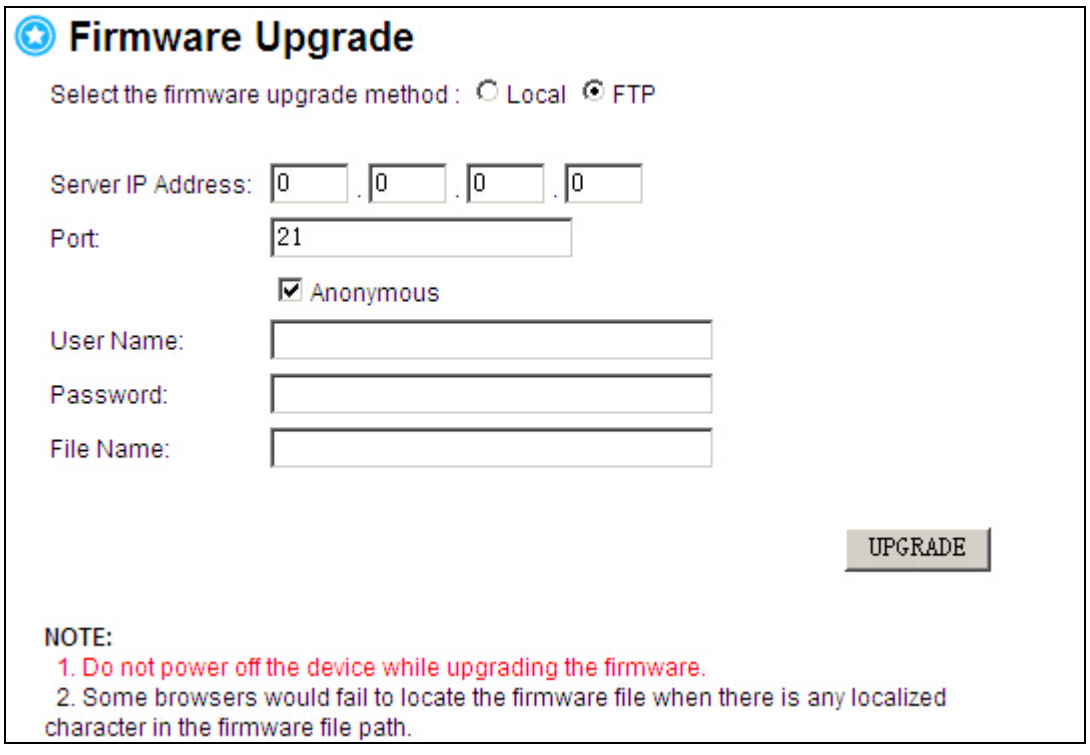
Click the "system tools" option, enter the page of system tools.

7.1 firmware upgrade

Click system tools > "firmware upgrade", enter the device firmware file updates page. On this page, you can choose local upgrade or FTP upgrade firmware equipment.



Select "local update", click "browse" button to select the new firmware file, then click on the "upgrade" to start the firmware upgrade.

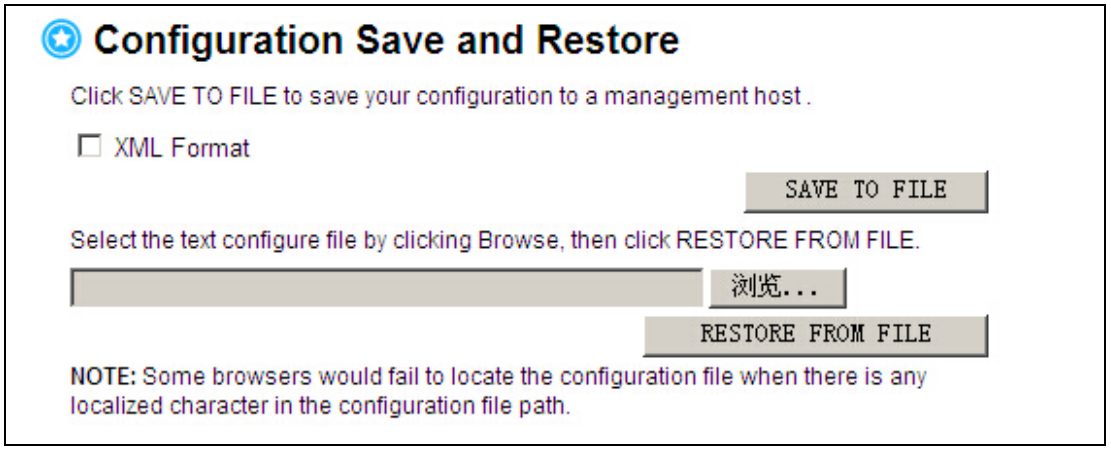


Choose "FTP upgrade" (check the picture), you need to enter the FTP server address, port, account, password, and remote upgrade file, you can also choose whether or not anonymous.

Warning	Please contact your service provider to obtain the latest device firmware file. During the firmware upgrade process, please pay attention that the equipment power supply cannot be shut down so as not to result in equipment damage or unable to use

7.2 Save and restore configuration

Click system tools > "save and restore configuration", enter the configuration file and restore the page.

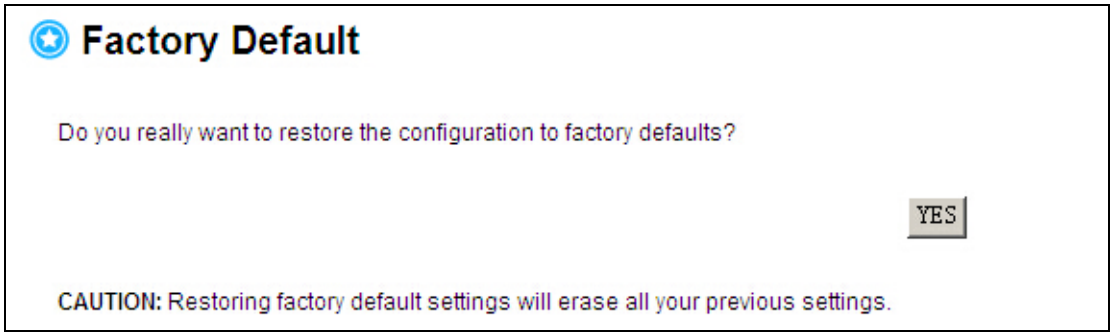


Click "save configuration file" button, you can set the relevant equipment in the form of a configuration file to save to your computer for next time to use. It is recommended that you backup original device configuration before you upgrade device firmware or load the new configuration file. It can effectively prevent the losting of the original configuration when upgrading the equipment firmware or loading a new profile.

"Restore the configuration file" function can reload the configuration file that is saved or set good. Click the "browse" button to select the configuration file, and then click the "restore the configuration file" button to restore the saved equipment settings.

7.3 The Default Settings

Click system tools > "default Settings", enter the restore default Settings page.



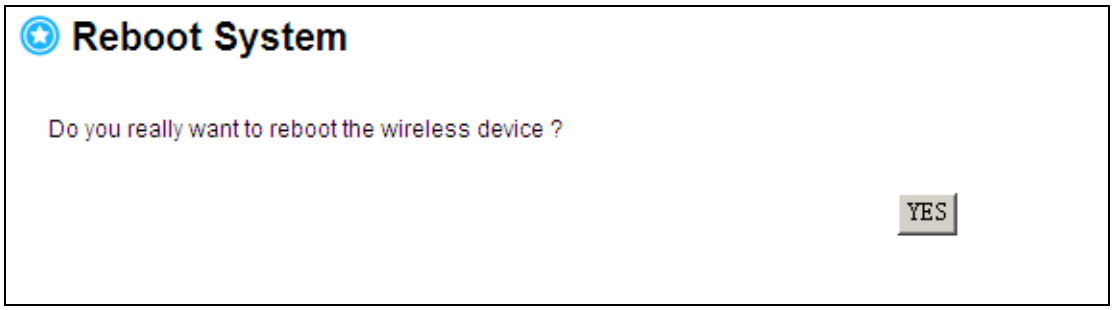
Click "ok" button on this page, and all equipment can be set back to factory default parameters.

The equipment configuration will be restored to factory Settings after restart.

If the page connection fails, you can reconfigure the device by connect via a serial port, you can also use ethernet interface to reconnect through a obtained DHCP address.

7.4 Restart system

Click system tools > system of "reset", enter the page of reboot the system.



Click "Yes" button to restart the device.

FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

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

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.