Tri Band 900 1800 2100MHz Selective RF Repeater

OVERVIEW

ATNJ RF repeater with industrial design, combines multi mobile network signals together and improves the mobile voice and data communication, aiming to provide a more cost-effective solution for signal. ATNJ RF repeater is easy to install and maintain, which could help signal providers get fast solution.

A repeater is working as a relay between the BTS and mobiles. It picks up the strongest signal from BTS via the Donor Antenna, linearly amplifies the signal and then re-transmits it via the Indoor Signal Distribution System to the weak/blind coverage area. And the mobile signal is also amplified and re-transmitted to the BTS via the opposite direction.

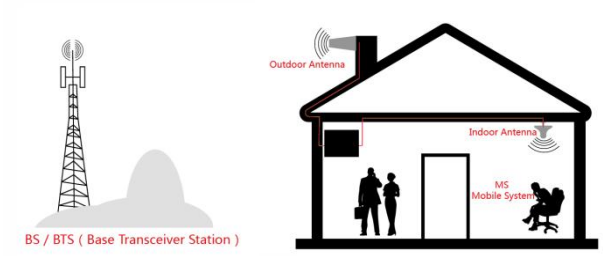
FEATURES

- Improve any three mobile networks at the same time
- LCD display the input/output signal strength
- Auto isolation detection
- Auto gain control
- Auto level control
- Supports from 0.2 to 30MHz bandwidth adjusted(Customized).
- Center frequency movable
- Smart LCD to guide the installation
- Wifi control and monitor

WHERE TO USE

- Indoor: Hotels, Exhibition Centers, Basement, Parking Lots, Shopping Malls, Apartments..
- Outdoor: Airport, Tunnel, Village, Mining Area, Court, Tourism Area..

APPLICATION SCENE

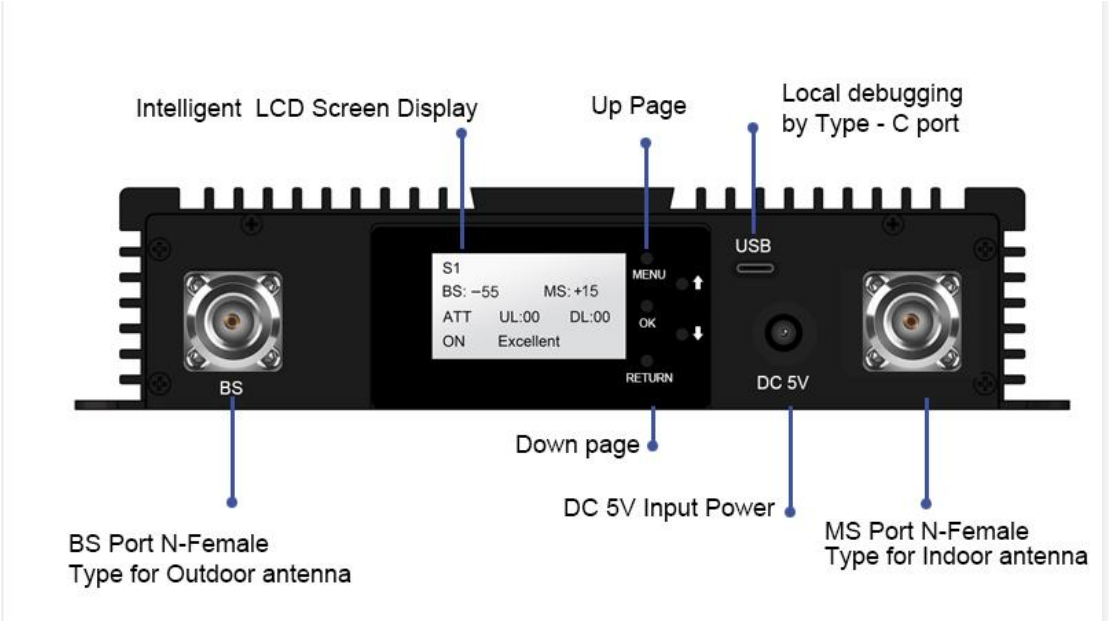


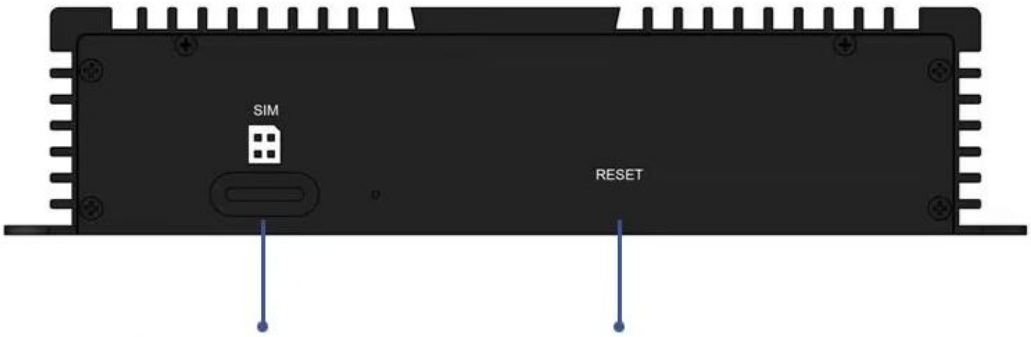
Technical Specification

SPECIFICATIONS		PARAMETERS	
Frequency Range		900MHz	UL890－910MHz, DL935－955MHz
		1800MHz	UL1710－1730MHz, DL1805－1825MHz
			UL1745－1765MHz, DL1840－1860MHz
		2100MHz	UL1960－1980MHz, DL2150－2170MHz
Bandwidth		900MHz	20MHz , Supports from 0.2 to 20MHz adjusted
		1800MHz	20MHz&20MHz , Supports 2*20MHz from 0.2 to 20MHz adjusted
		2100MHz	20MHz , Supports from 0.2 to 20MHz adjusted
Gain		UL:65dB DL:70dB	
Output Power		UL:15dBm DL:≥17dBm	
Automatic Gain Control		31dB	
MGC (Step Attenuation)		20dB@ 1dB/Step	
Spurious Emission	9 kHz -150 kHz/1kHz	≤-36dBm	
	150 kHz - 30 MHz/10kHz	≤-36dBm	
	30 MHz - 1 GHz/100kHz	≤-36dBm	
	1 GHz- 12.75 GHz/1MHz	≤-30dBm	
ACPR		Downlink Fully comply with 3GPP 36.106	
		Fully comply with 3GPP 36.106	
Unwanted emissions		Fully comply with 3GPP 36.106	
Out Of Band Gain	900MHz	1MH≤f_offset＜5MHz, UL:≥30 dB,DL:≤ 30 dB	
	1800MHz	1MH≤f_offset＜5MHz, UL:≥ 30 dB,DL:≤ 30 dB	
	2100MHz	1MH≤f_offset＜5MHz, UL:≥ 30 dB,DL:≤ 30 dB	
EVM		≤8	
VSWR		≤2	
Ripple	900MHz	≤6dB	

	1800MHz	⩽6dB
	2100MHz	⩽6dB
Noise Figure		⩽8dB
Delay		⩽3μs
I/O Impedance		50Ohm
RF Connector(Customers to Choose)		N -Type (Female)
Remote Control		Cloud WEB platform
Local Control		WIFI/Type-C port
Operating Temperature		-25°~+55°
Power Supply		DC 5V/5A
Power consumption		⩽75W
Environment Conditions		IP43
Humidity		⩽90%
Weight		⩽3kg
Size		234*230*52 (mm)

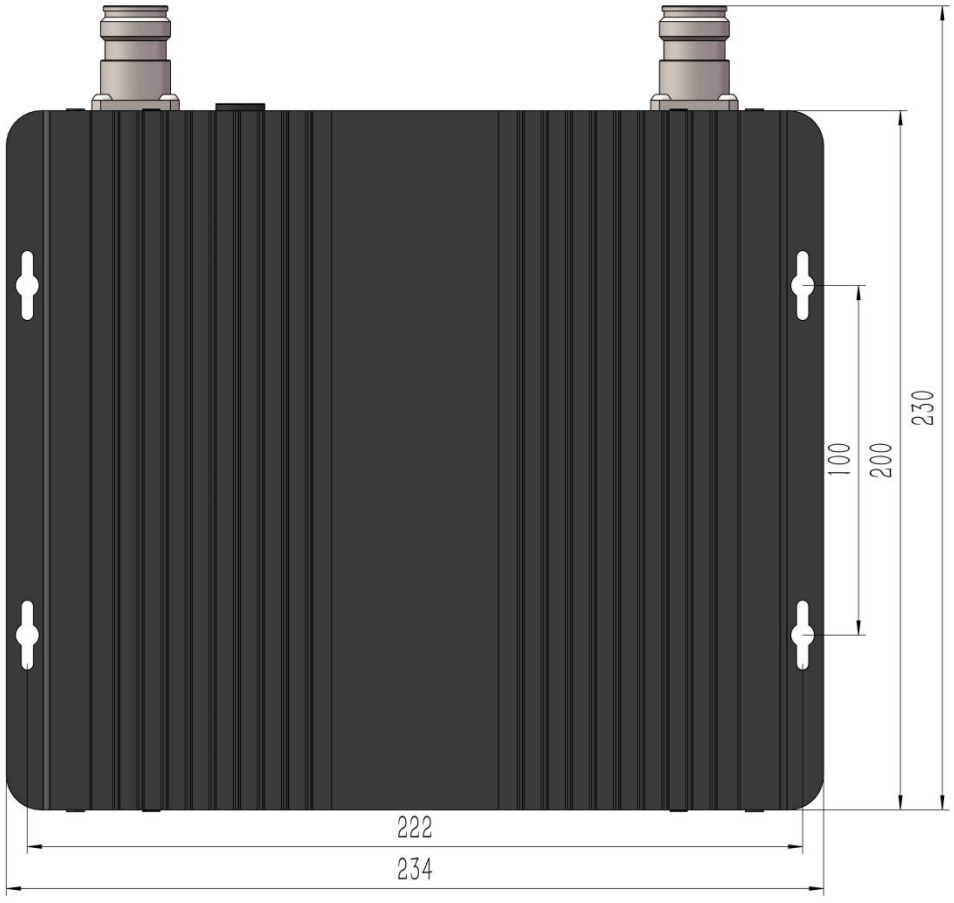
Products images:





SIM slot for NMS remote debugging bay SIM card

Poke in the port for resetting

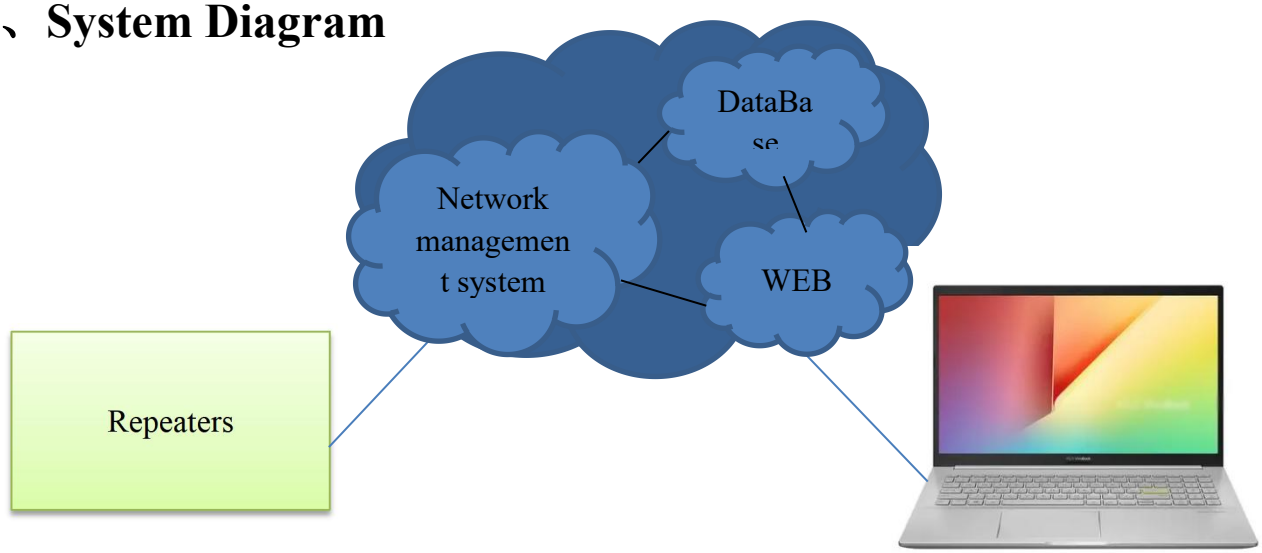


Cloud WEB platform device management system:

1、Overview

The system platform is based on cloud deployment, and the device accesses the Internet to communicate with the system platform. Users can query and set the device by browsing the website.

2、System Diagram



The repeater device accesses the Internet through the communication module. The NMS collects the device information and writes it into the database.
The website connects to the database to display the device information to the user interface. By connecting to the network management system, the device can be queried and set.

3、System Feature

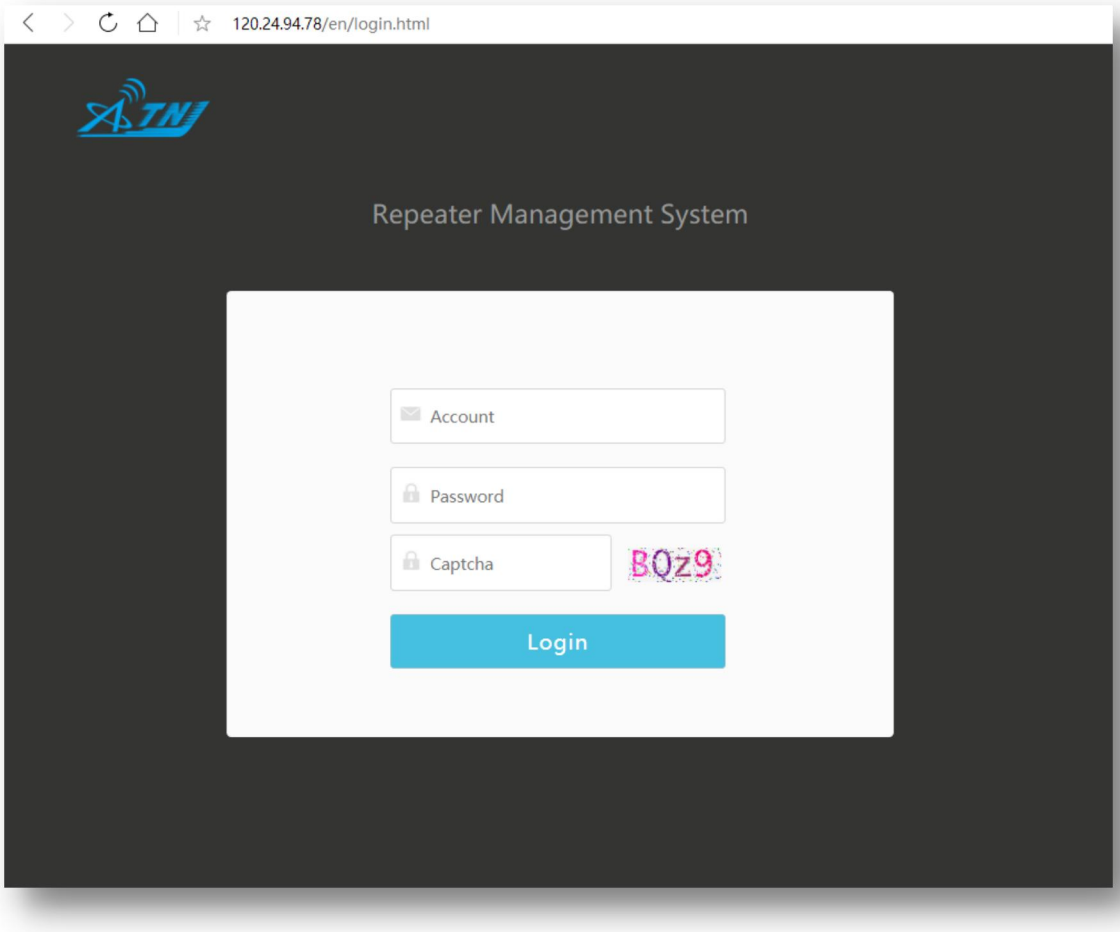
①The remote transmission of the equipment adopts GPRS/LTE, which makes the data transmission more efficient.
②B/S framework, users do not need to install additional software, logined in and used by a browser.
③The platform adopts cloud framework, which saves cost and makes maintenance easier.
④Hierarchical user management, system management and common users have

different functional rights.

4.Website login instructions

4.1 Website login in

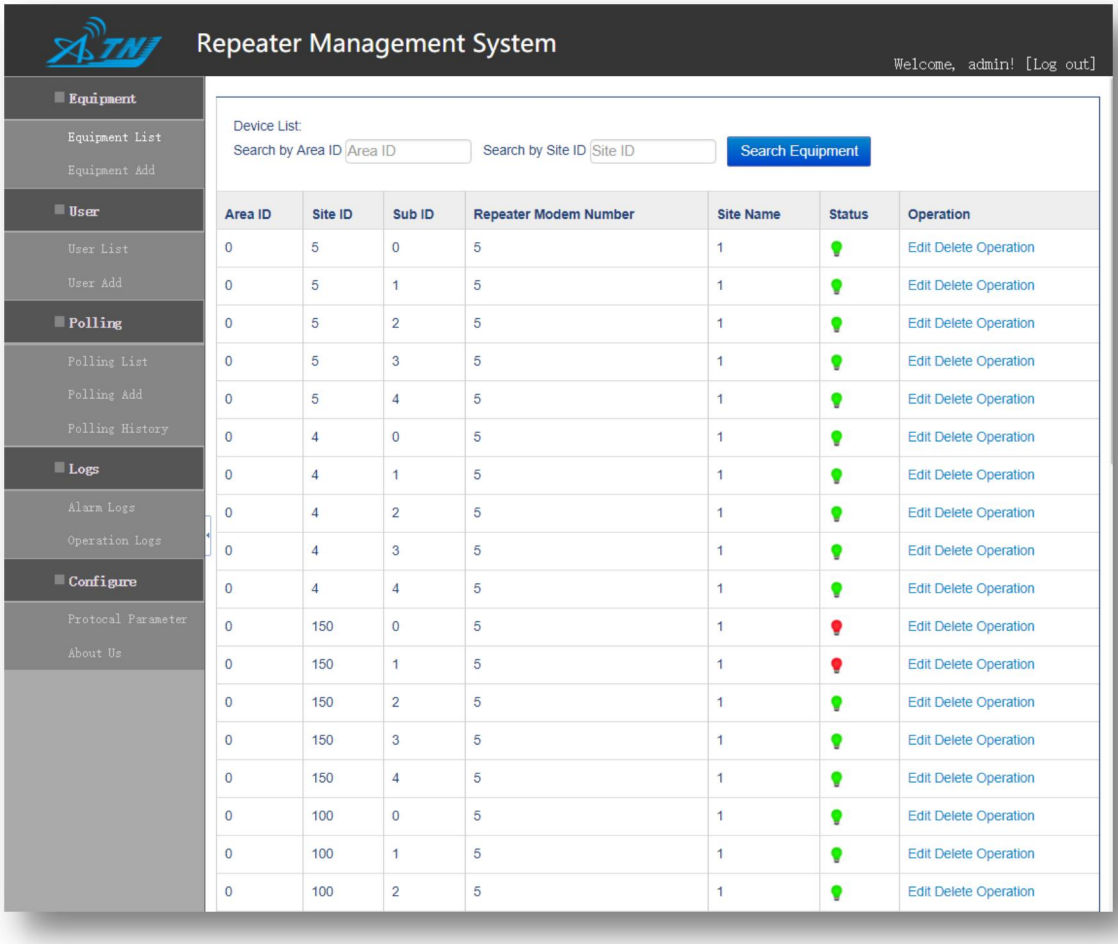
Pls visit this website by Google Chrome， site：http://120.24.94.78/en/login.html



4.2 Equipment

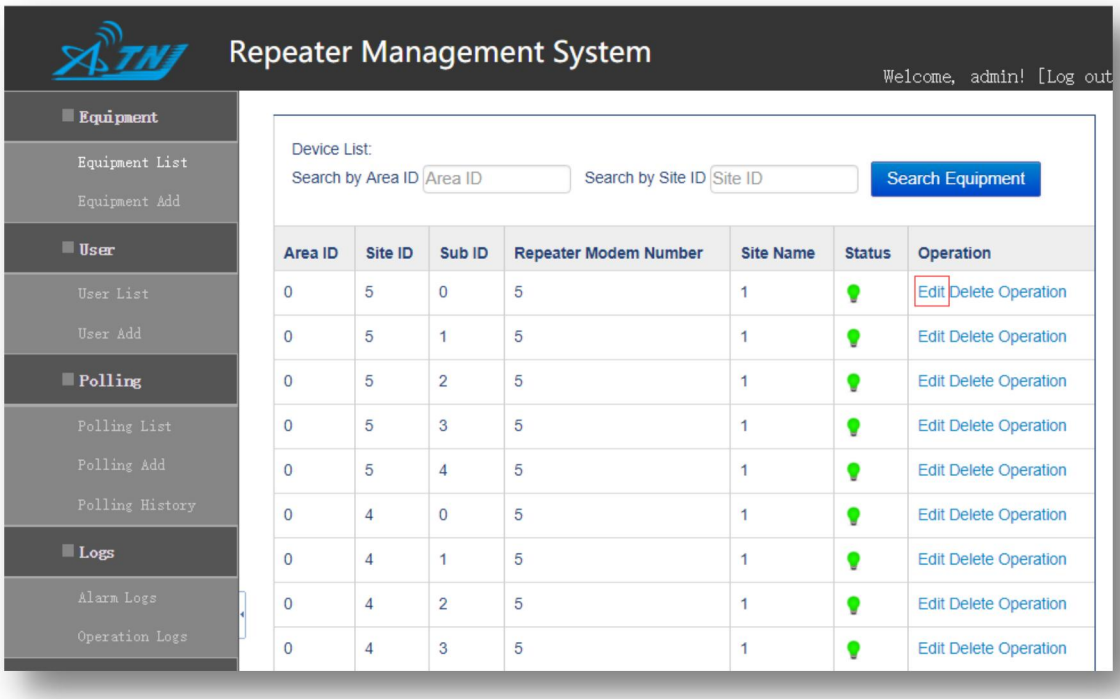
4.2.1 Equipment List

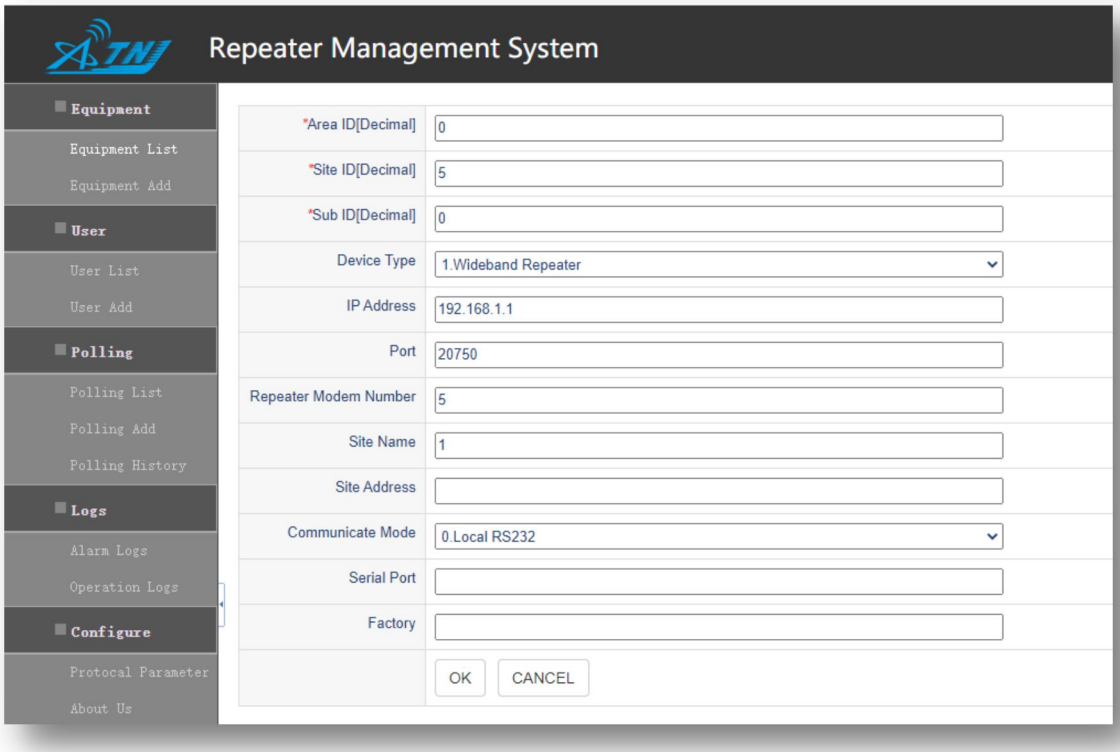
In the equipment list, you can view all devices, edit, delete, and operate equipment



4.2.2 Operation- Edit

On the right of the equipment list, select the site you want to operate and click "Edit" to enter the site editing page for editing the site.

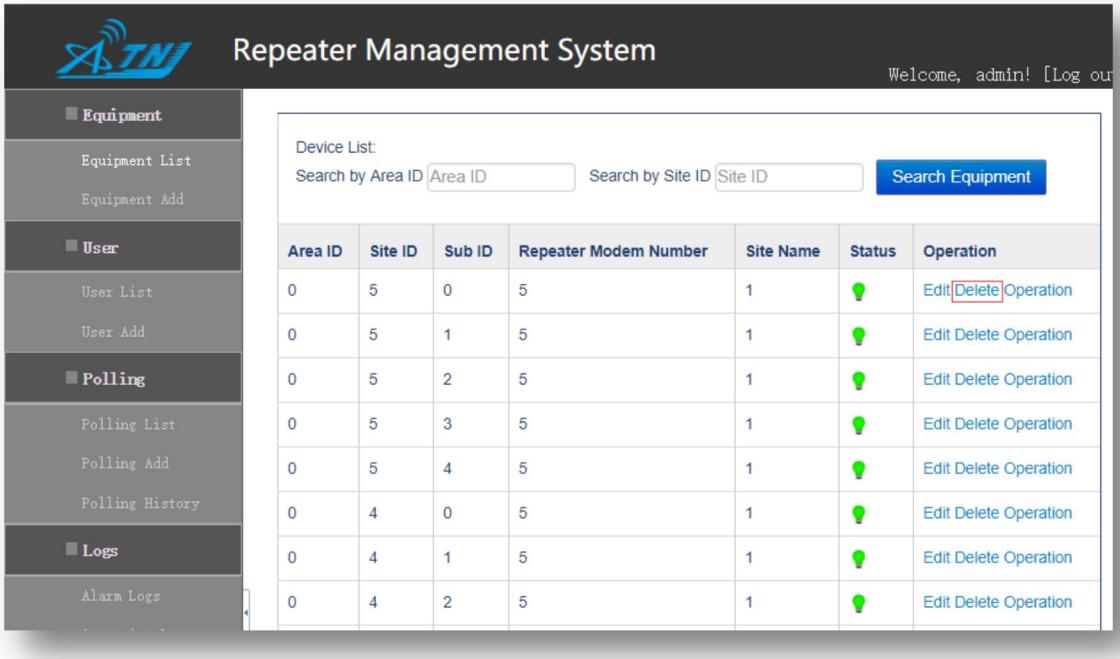


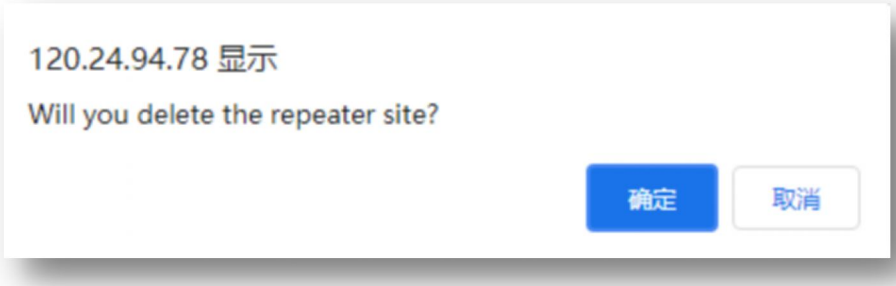


After edit，click“OK”means confirm setting，click“CANCEL” means cancel the setting.

4.2.3 Operation- Delete

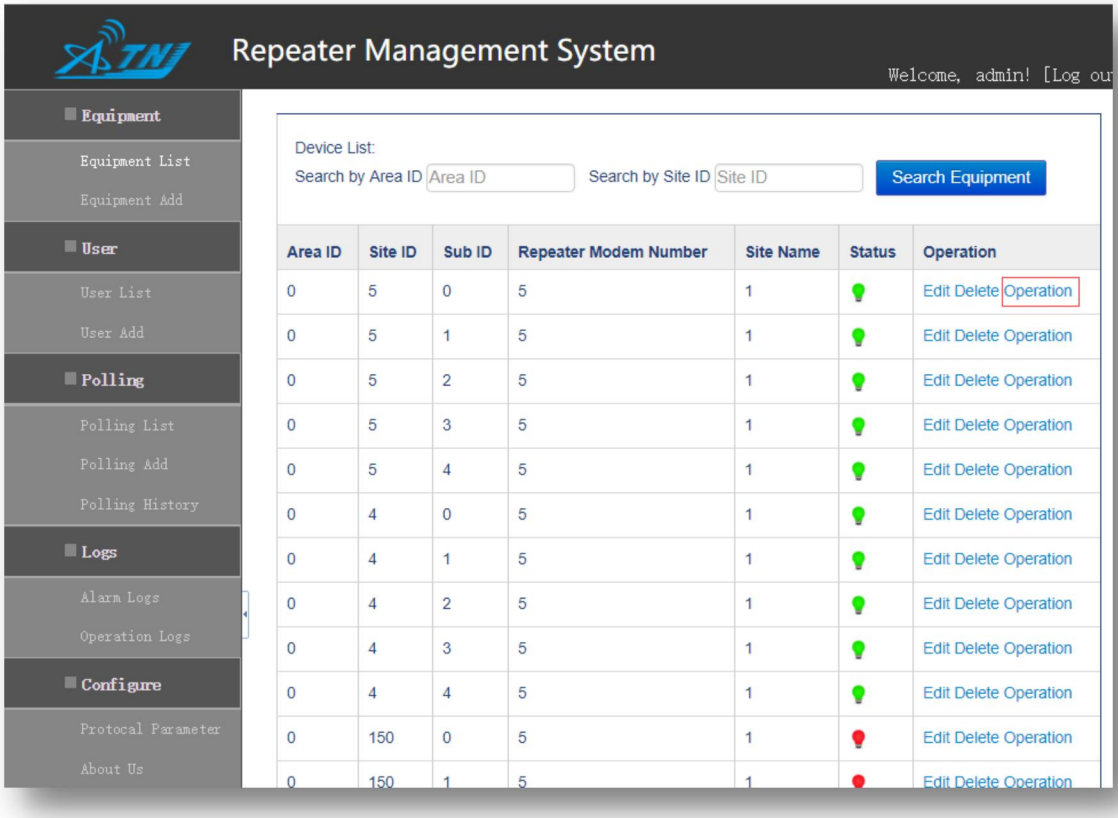
On the right side of the equipment list, select the site to be operated and click "Delete". The system will pop up a confirmation window. Click "Confirm" to delete the site and click "Cancel" to return.





4.2.4 Operation-Operation

On the right of the equipment list, select the site you want to operate and click “Operation” to go to the device management page.

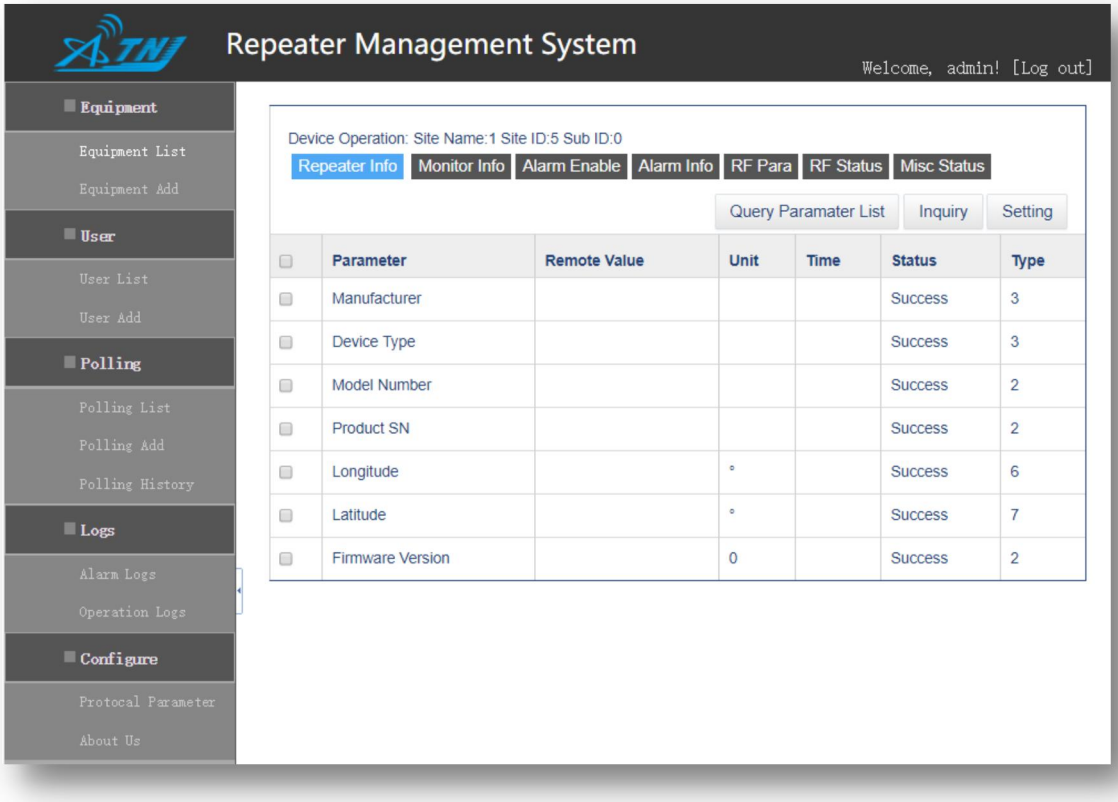


The RePeater Info, Monitor Info, Alarm Enable, Alarm Info, RF Para, RF Status, and Misc Stauts are included

You can click the "Query Paramater List" button to obtain the device monitoring list

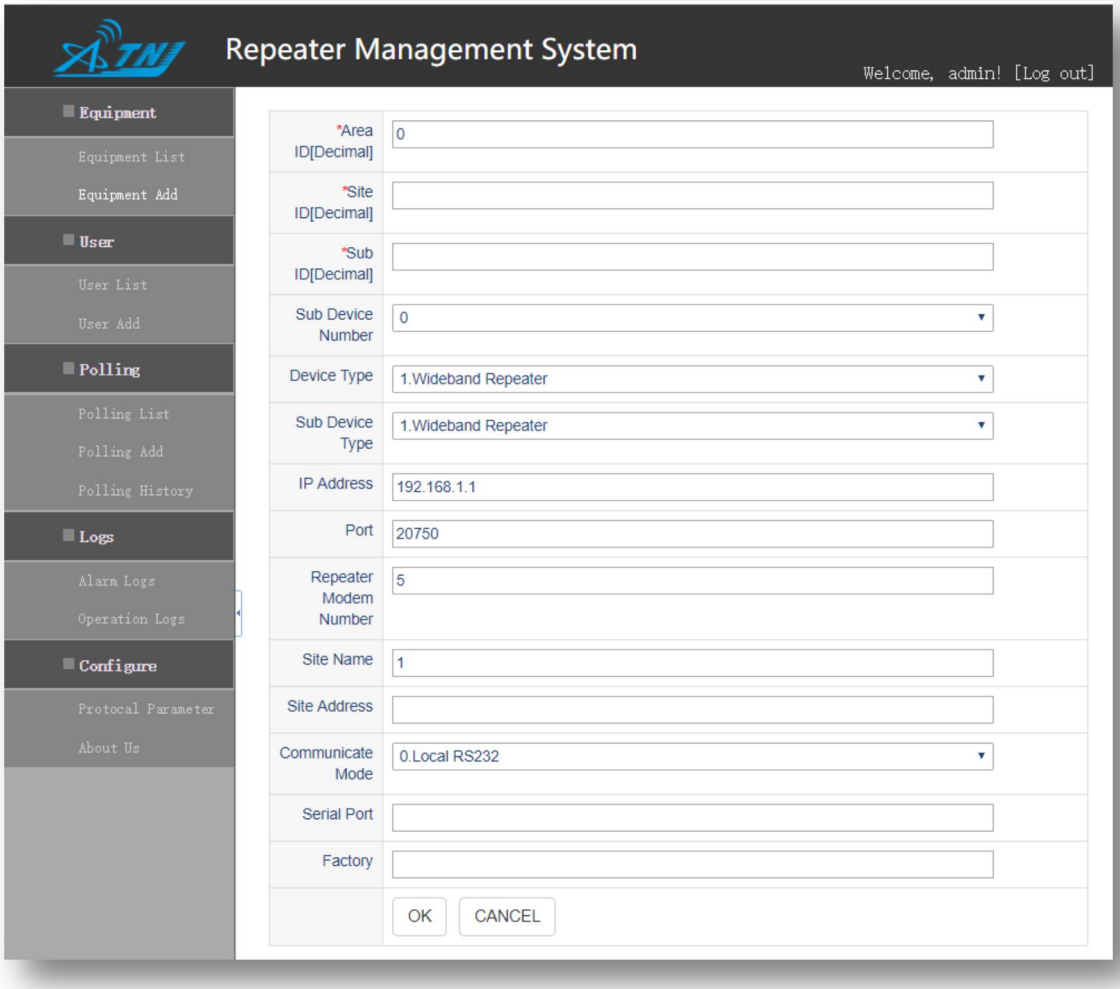
Tick the items to be queried and press "Inquiry" to query.

Tick the items to be set and press "Setting" to set them.



4.2.5 Equipment Add

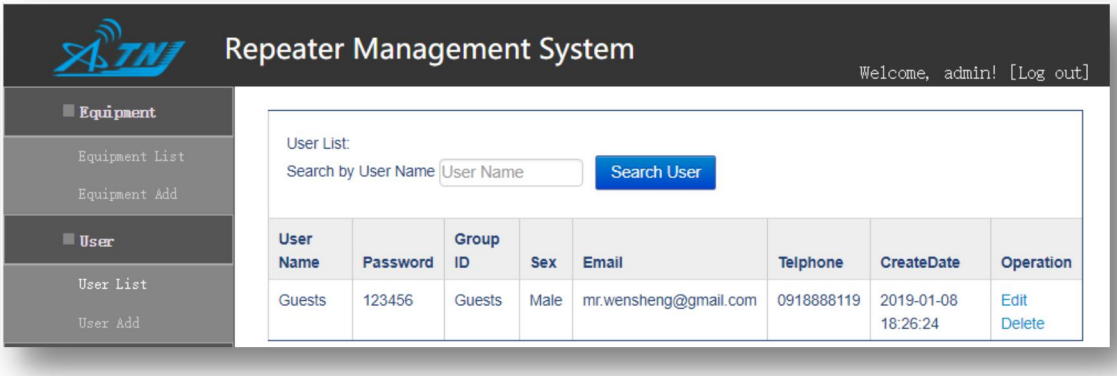
Add a Site. The Area ID, Site ID, and Sub ID are mandatory.



4.3 User

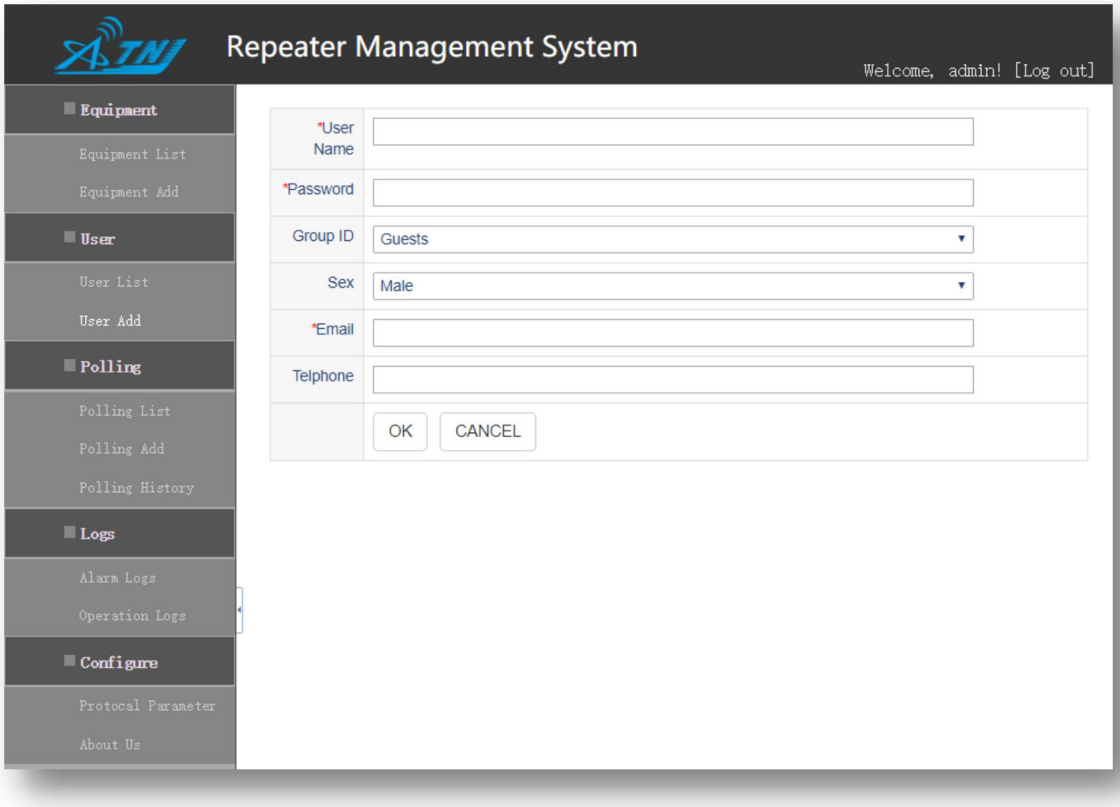
4.3.1 User List

The user list can be viewed, edited, and deleted.



4.3.2 User Add

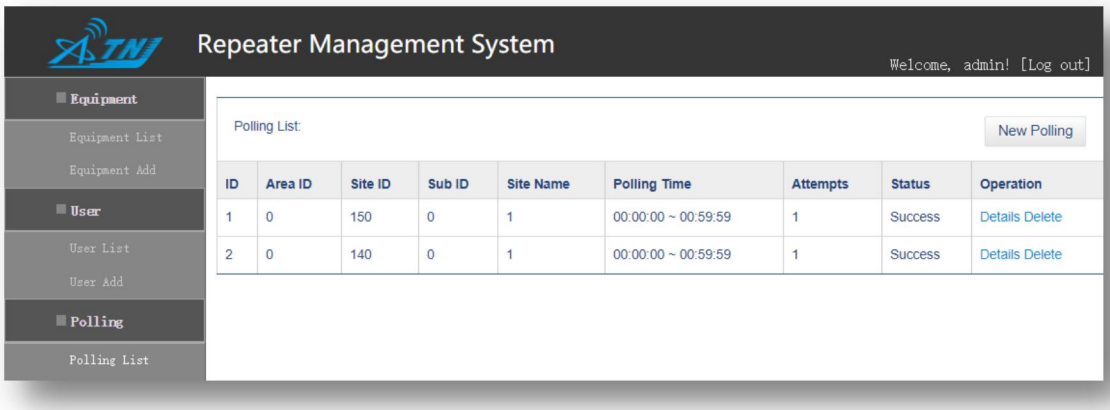
User Add



4.4 Polling

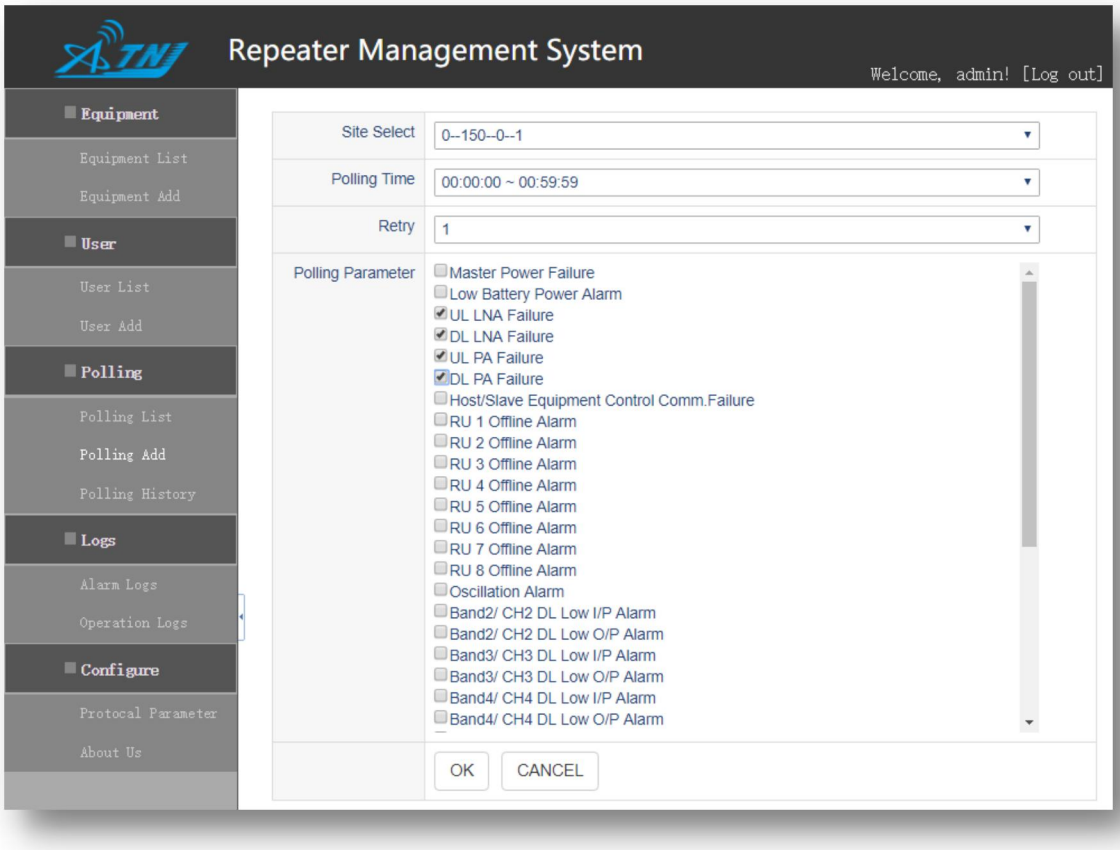
4.4.1 Polling List

Poll the task list

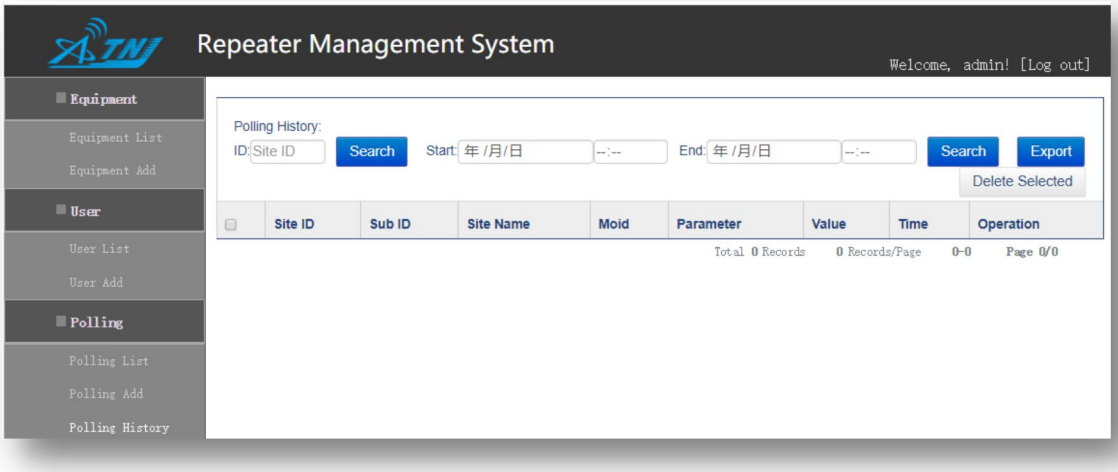


4.4.2 Polling Add

Add a polling task



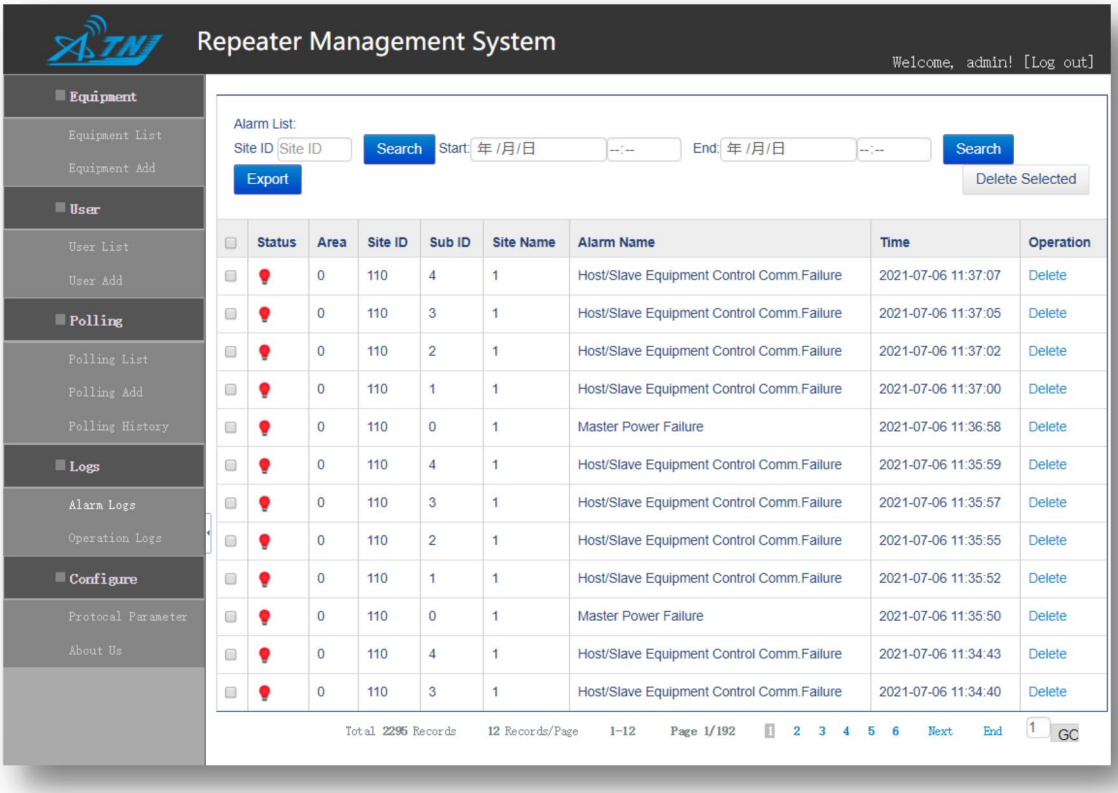
4.4.2 Polling History



4.5 Logs

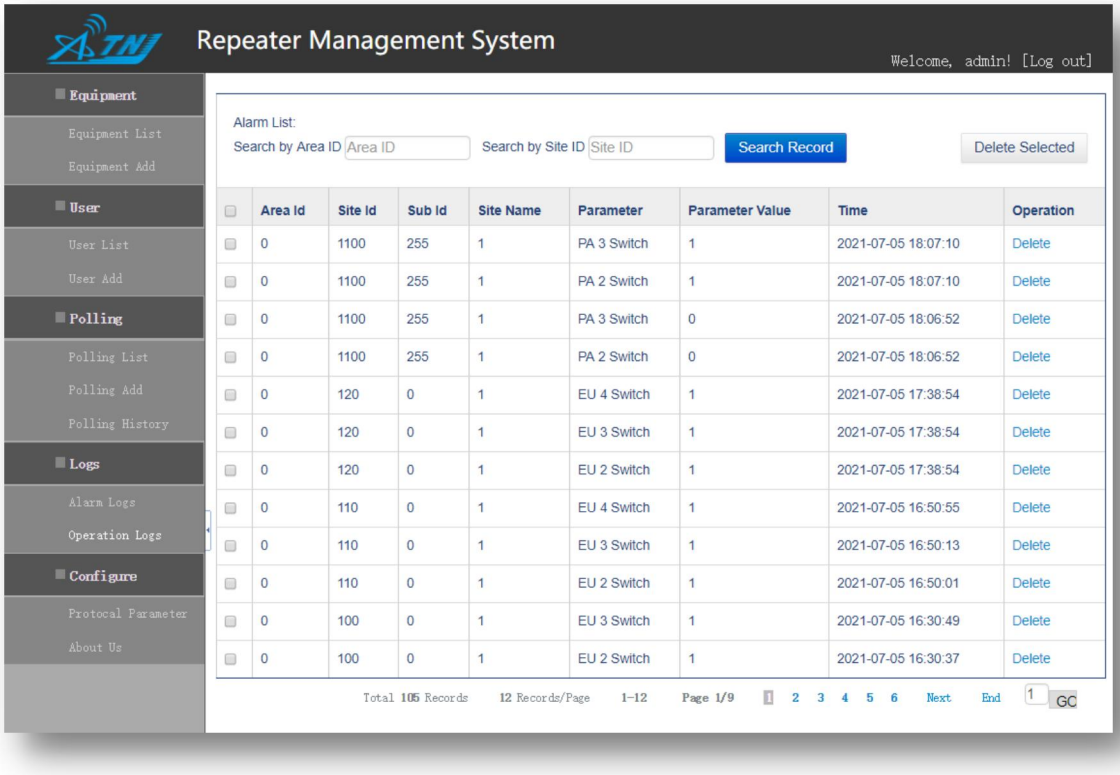
4.5.1 Alarm Logs

You can view and delete alarm logs



4.5.1 Operation Logs

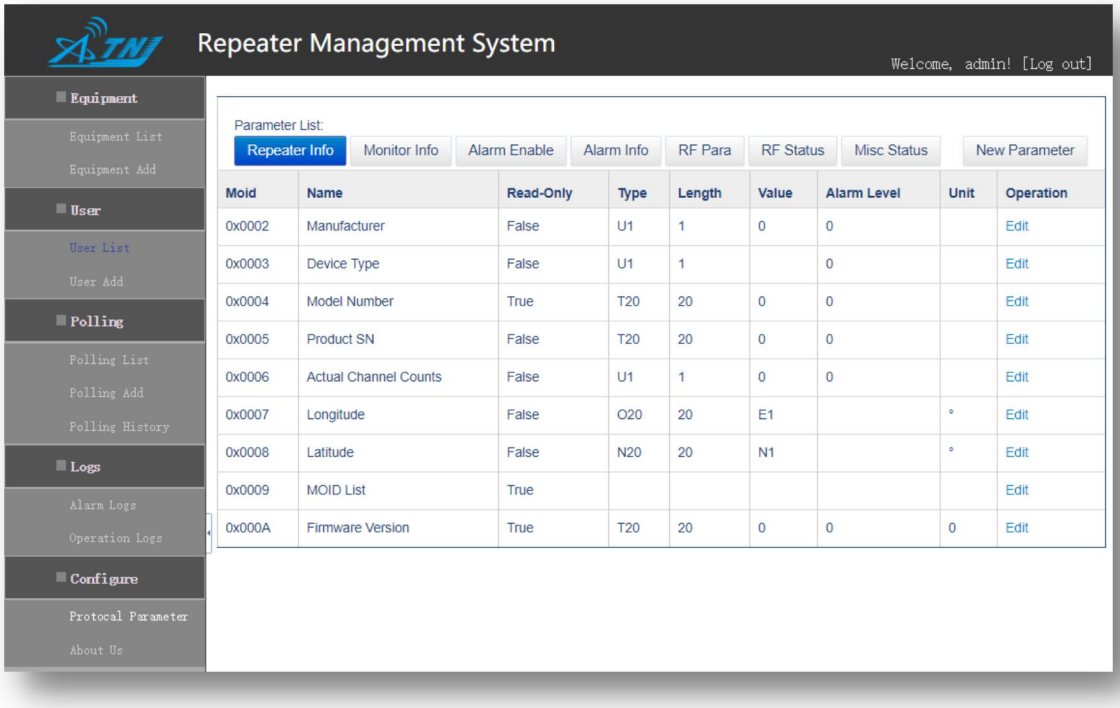
You can view and delete operation logs



4.6 Configure

4.6.1 Protocal Parmeter

You can view, modify, and add monitoring parameters.



4.6.2 About us

Software information.

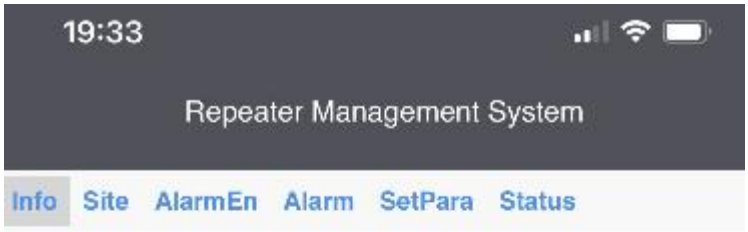
Local Management System

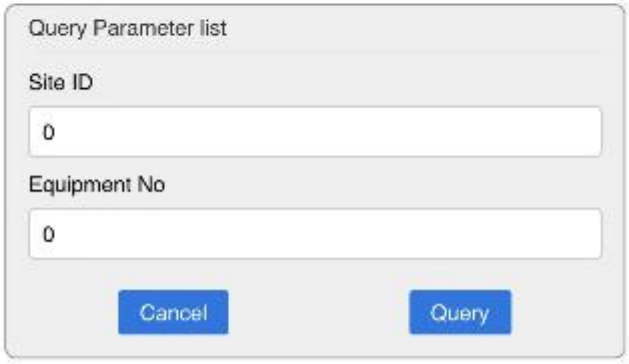
①After the signal repeater is started, a Wifi access point would be created.

Please use phone to connect th WIFI, password: 12345678

After connecting with the WIFI, use browser of mobile phone to visit 192.168.3.1.

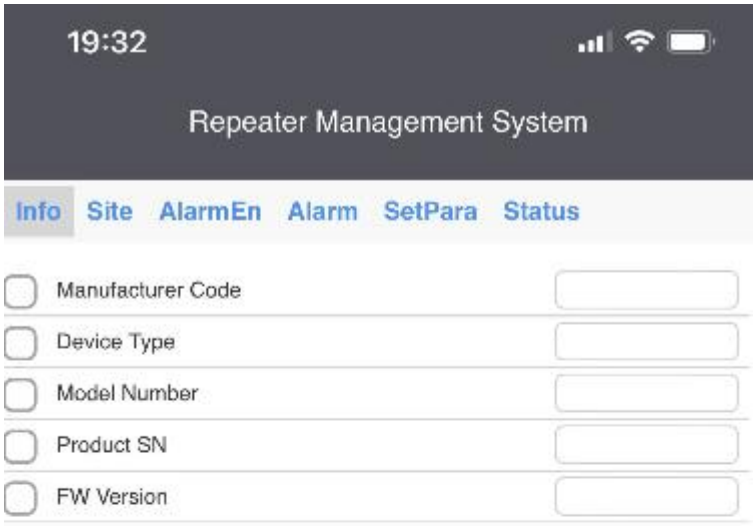
Input Euipment number: 255 to log in (click Query).





②Then you could see the control page.

Page 1 = Device information,
For manufacturer code / device type / model number / Product SN / FW Version, these can be customized.



③Page 2 = Site

It shows information of the base station, its location and station number

④Page 3 = Alarm function, alarm if any failure of device.

UL PA Failure = Uplink Power Amplifier Failure
DL PA Failure = Downlink Power Amplifier Failure
PS: Power amplifier is a module which is in charge of amplifying the power.

Oscillation Alarm = Signal self-excitation alarm
Band1/CH1 DL Low I/P Alarm = S1 signal downlink low input power alarm
Band1/CH1 UL Low I/P Alarm = S1 signal uplink low input power alarm

⑤Page 4 = Alarm: show the working status of various parameters

UL PA= Uplink power amplifier
DL PA= Downlink power amplifier
Oscillation = Signal self-excitation.
Band1/CH1 DL Low I/P = S1 signal downlink low input power
Band1/CH1 UL Low O/P = S1 signal uplink low onput power

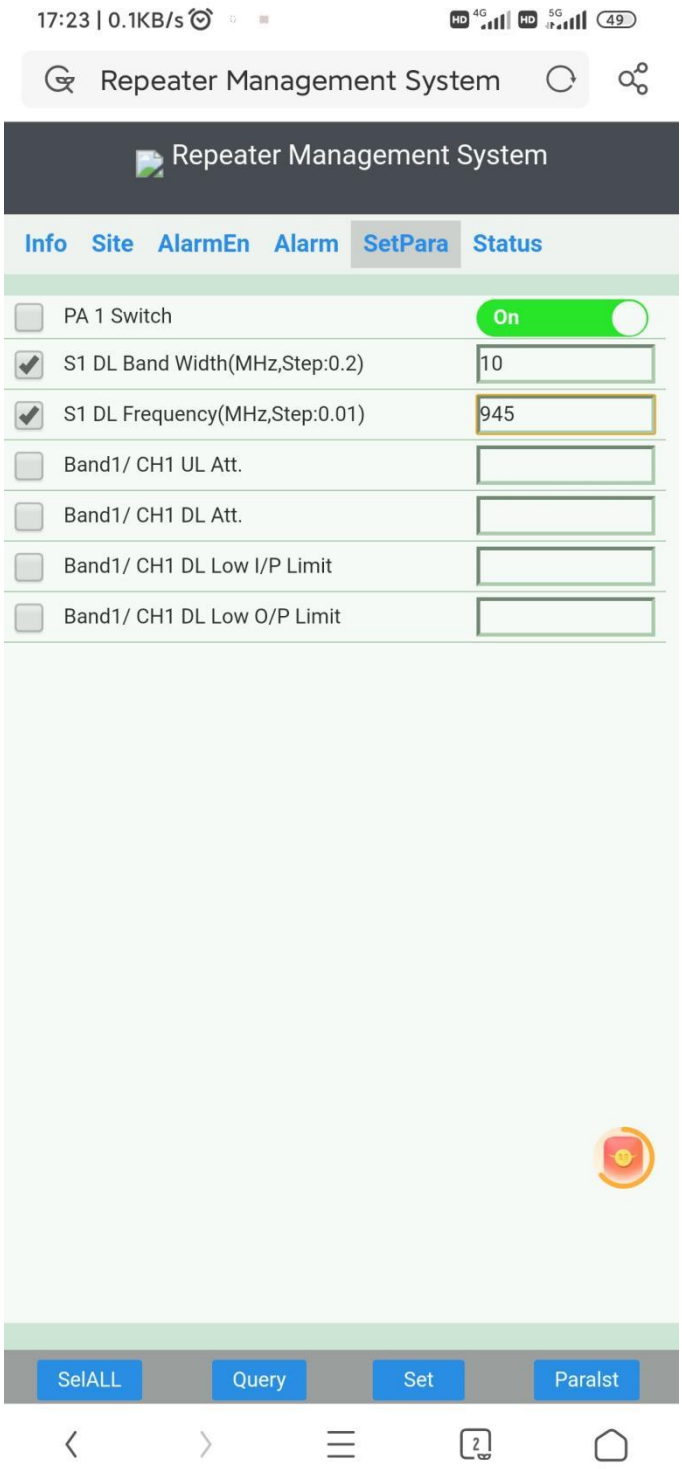
⑥Page 5 = Setting Page: Customers could set up parameters according to their own

needs or use environment.
PA 1 Switch = Power Amplifier Switch = turn off/on the device.
S1 DL Band Width = S1 signal downlink bandwidth setting-up: customers could set up the bandwidth to receive signal from only one signal operator, and device screen would also only show the signal value of that signal operator, which could avoid signal interference from other operators, also make it available to sell to signal operator directly.
S1 DL Frequency = S1 signal downlink frequency range setting, the purpose is the same as setting up bandwidth.

Band 1 /CH1 UL ATT = Signal 1 (Channel 1) Uplink Gain attenuation
Band 1 /CH1 DL ATT = Signal 1 (Channel 1) Downlink Gain attenuation
Band1/CH1 DL Low I/P limit = S1 signal downlink low input power limit
Band1/CH1 UL Low O/P limit= S1 signal uplink low output power limit
When the outdoor signal is too strong, causing signal excitation, customers could attenuate the gain and limit the power to avoid signal excitation.

How to set the frequency and Bandwidth you want ?
Band-selected signal repeater is only to set the downlink frequency to receive a specific frequency.
We need to fill in the intermediate frequency between the starting value and the terminal value of the frequency in S1 DL Frequency, and then fill in the bandwidth in S1 DL Band Width.

For example, downlink frequency range of Signal Operator is 940-950MHz, then we need to fill in the middle value between 905 and 915. So we need to fill 945MHz in S1 DL frequency, and fill 10 in S1 DL Band Width.



⑦Page 6 = Status: show customers the working status.

Band 1 /CH1 DL I/P = Signal 1 (Channel 1) Downlink input power (input signal strength)

Band 1 /CH1 DL O/P = Signal 1 (Channel 1) Downlink output power

Band1/CH1 UL Max Gain= S1 signal uplink gain
Band1/CH1 DL Gain= S1 signal downlink gain.