



**xDAQ-600 / xDAQ-600(P)**

**A Piezo Vibration Analysis and  
Diagnosis Unit**

**Operation Manual**

**V1.1**

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# Start Up

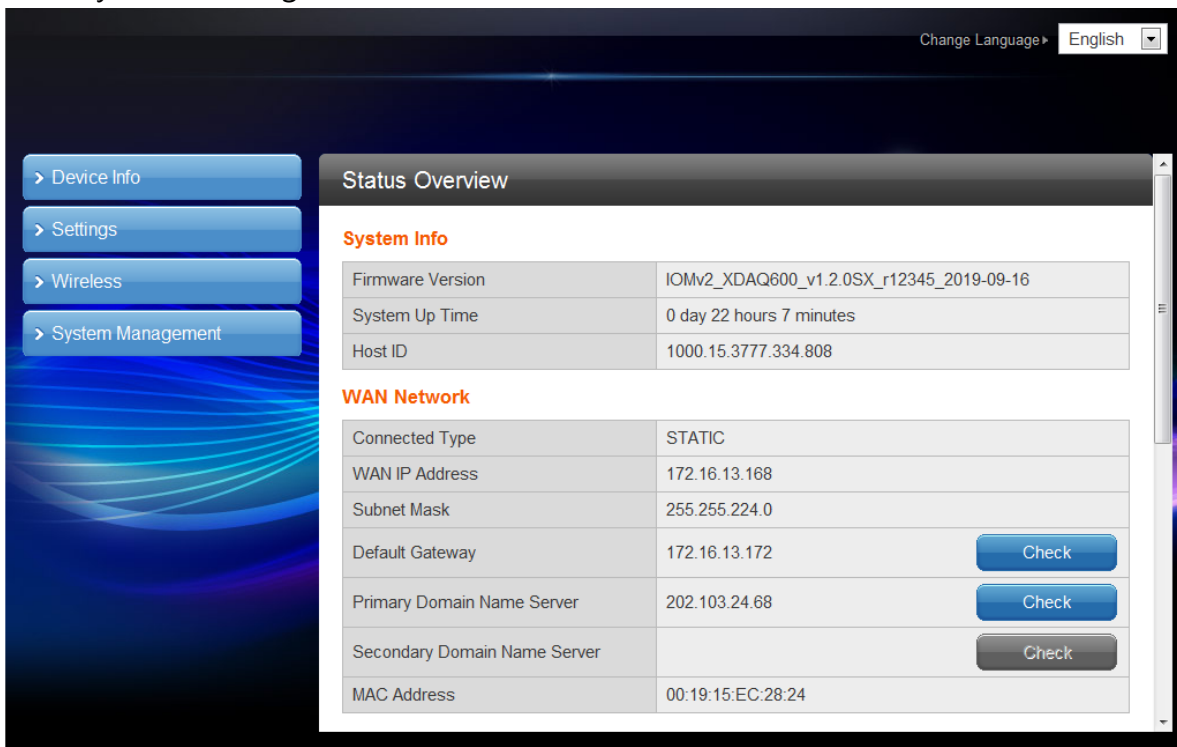
Users use the browser (default IP: 192.168.168.10, account: admin, password: IP585xAdmin), and the homepage provides links to AG300 related functions.

System login screen:



After successful login, the system will list the current status information, the page is as follows:

Users can set the project into four major items: "Device info", "Settings", "wireless", and "System Management".



# 1. Device Info

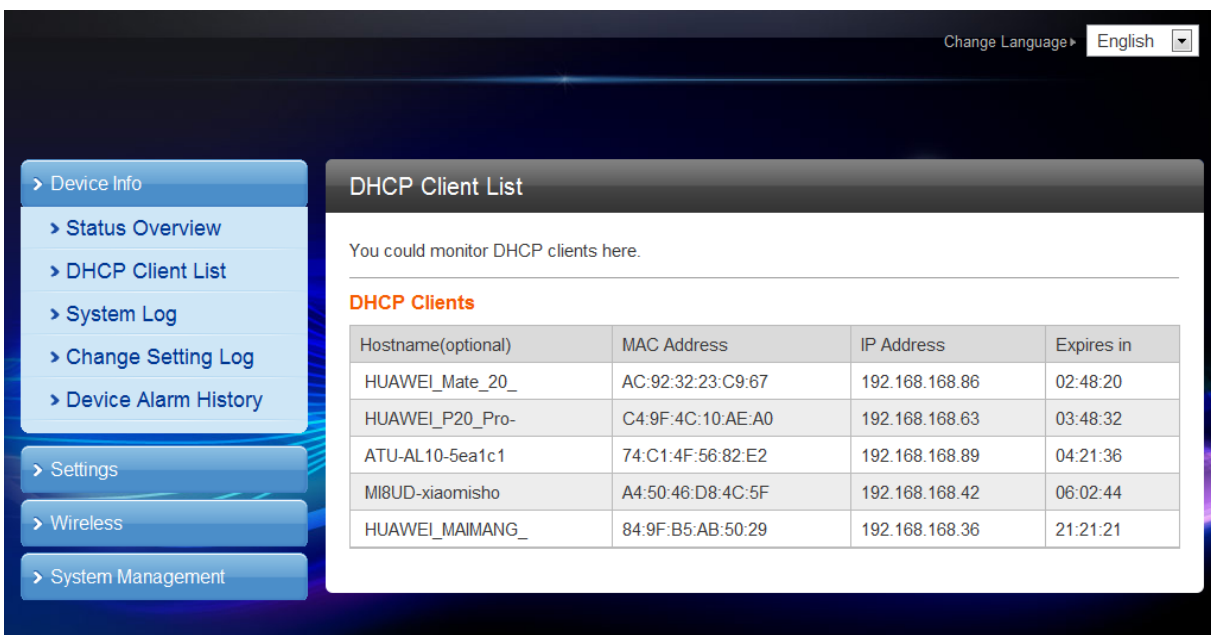
The device information includes five items: "Status Overview", "DHCP Client List", "System Log", "Change Setting Log", and "Device Alarm History".

## 1.1 Status Overview

Users can use this project to obtain basic system information and network settings. The page is as shown in the figure above.

## 1.2 DHCP Client List

Users can use this project to obtain DHCP client data.

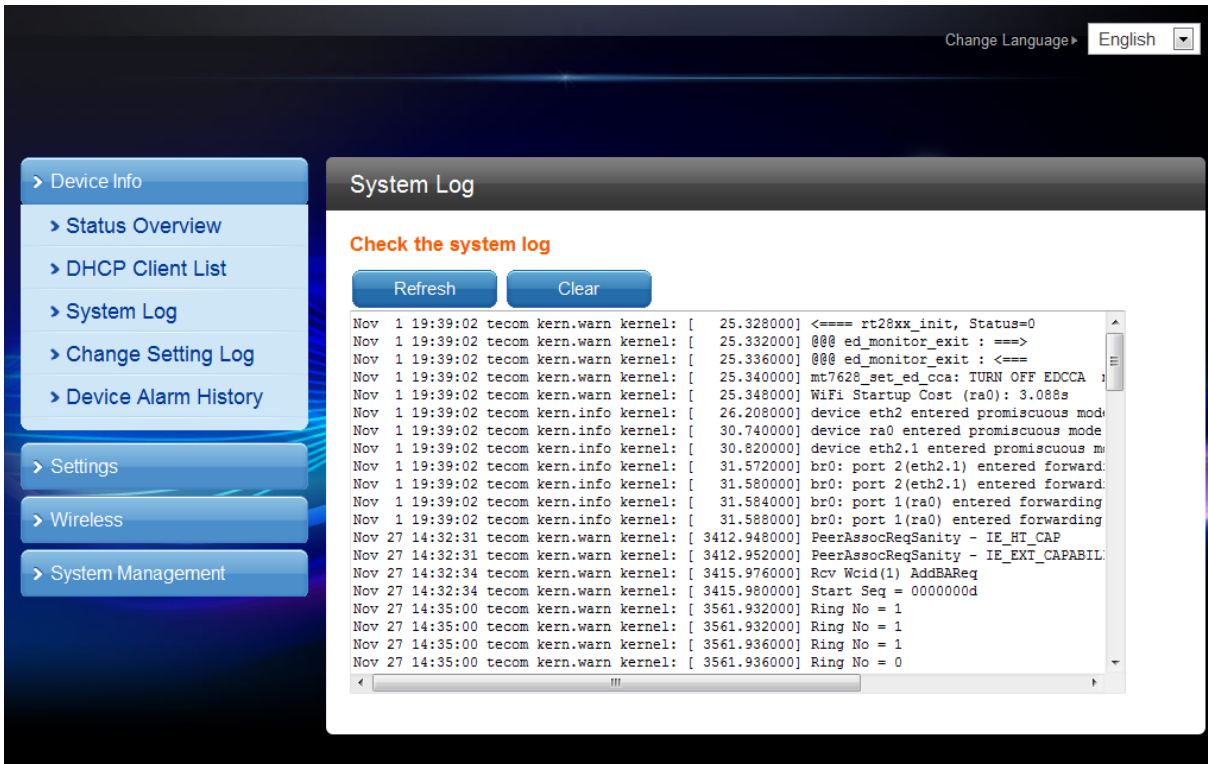


The screenshot shows the DHCP Client List interface. On the left is a navigation menu with options: Device Info (expanded), Status Overview, DHCP Client List (selected), System Log, Change Setting Log, Device Alarm History, Settings, Wireless, and System Management. The main content area is titled "DHCP Client List" and contains the text "You could monitor DHCP clients here." Below this is a table of DHCP clients.

Hostname(optional)	MAC Address	IP Address	Expires in
HUAWEI_Mate_20_	AC:92:32:23:C9:67	192.168.168.86	02:48:20
HUAWEI_P20_Pro-	C4:9F:4C:10:AE:A0	192.168.168.63	03:48:32
ATU-AL10-5ea1c1	74:C1:4F:56:82:E2	192.168.168.89	04:21:36
M18UD-xiaomisho	A4:50:46:D8:4C:5F	192.168.168.42	06:02:44
HUAWEI_MAIMANG_	84:9F:B5:AB:50:29	192.168.168.36	21:21:21

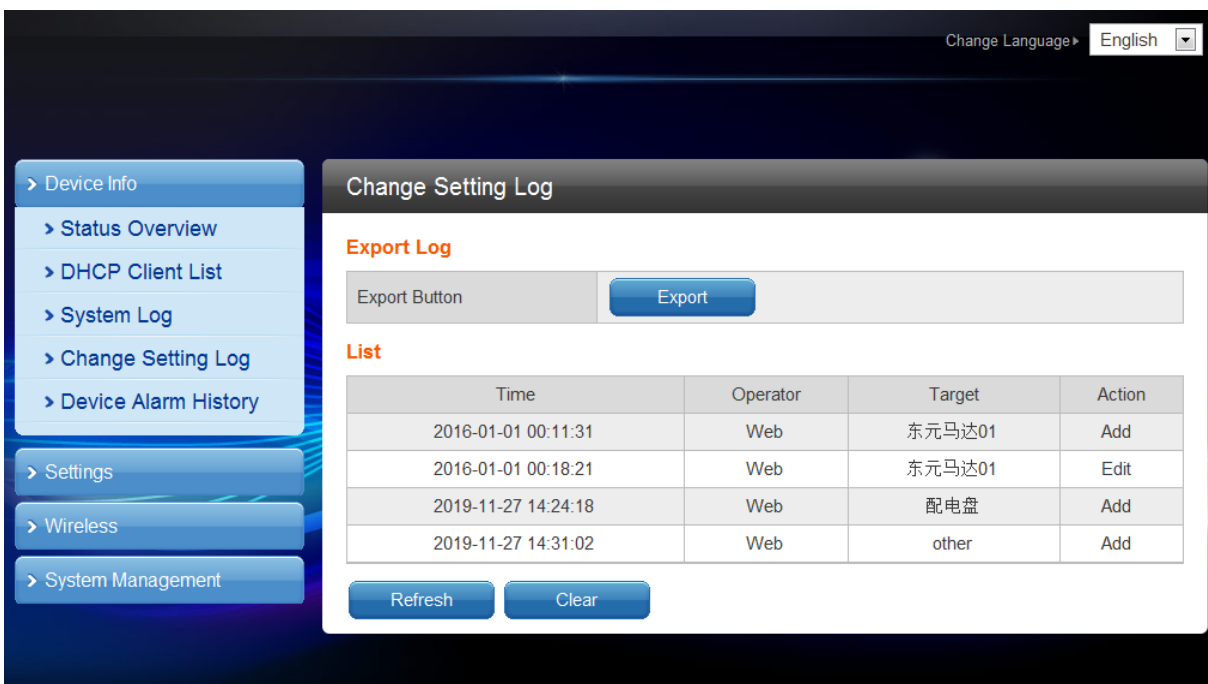
## 1.3 System Log

Users can use this project to obtain system log data.



## 1.4 Change Setting Log

The operation history is listed in the List directory. It can be exported via the "Export" button.



## 1.5 Device Alarm History

Users can use this project to view the alarm records of all devices.

The screenshot shows the 'Device Alarm History' page in a web interface. On the left is a navigation menu with options: Device Info, Status Overview, DHCP Client List, System Log, Change Setting Log, Device Alarm History, Settings, Wireless, and System Management. The main content area is titled 'Device Alarm History' and shows a table of alarm records for a motor. The table has columns for Device, Name, Type, Status, Value, Limit, and Time. The data is as follows:

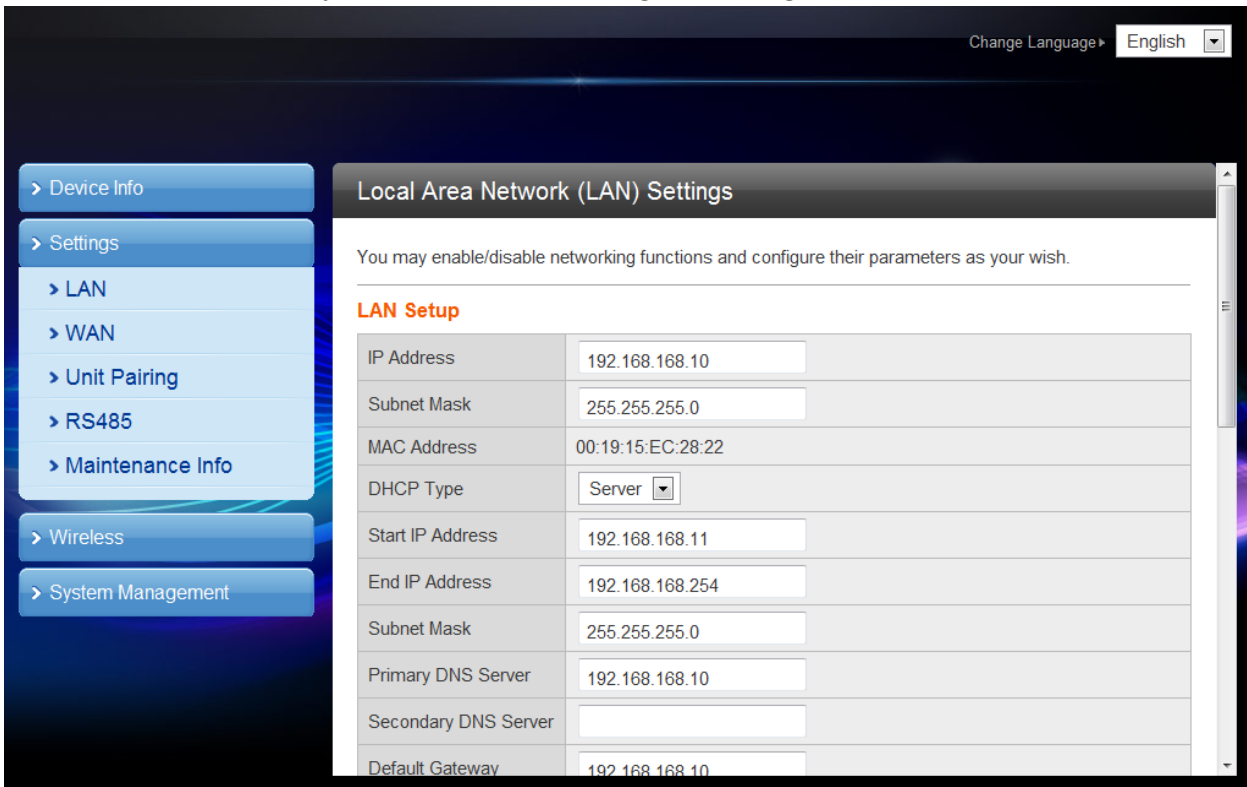
Device	Name	Type	Status	Value	Limit	Time
东元马达01	D	Acceleration RMS	Sudden Up	5.9330,2.600,829.0700,0.2630	800.0000	2019-10-31 19:29:26
东元马达01	D	Acceleration RMS	Sudden Up	17.3730,2.000,838.6200,2.4665	800.0000	2019-10-30 16:20:59
东元马达01	D	Acceleration RMS	Sudden Up	12.1570,1.600,848.2300,0.7521	800.0000	2019-10-30 16:11:46
东元马达01	D	Acceleration RMS	Sudden Up	9.6760,4.500,1740.9500,0.9115	800.0000	2019-10-29 16:03:33
东元马达01	D	Acceleration RMS	Sudden Up	13.1940,4.400,1036.3100,1.0834	800.0000	2019-10-29 15:05:15

## 2. Settings

Usage settings include "LAN", "WAN", "Unit Pairing", "RS485", "Maintenance info" sub-items.

### 2.1 LAN

Users can use this project to set LAN settings, the page is shown as below:



### 2.2 WAN

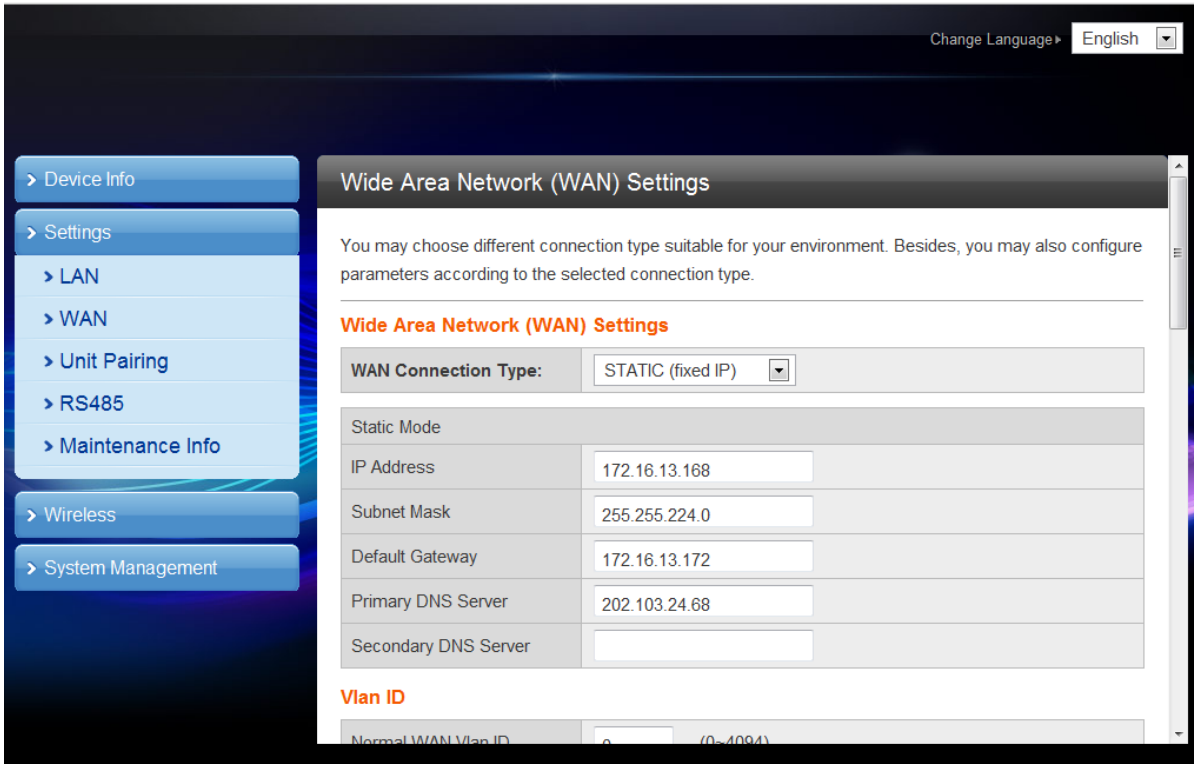
Users can use this project to set up the WAN. The page is as shown below:

"Remote Access" can configure projects that allow remote access:

"Secure HTTP" can enable or disable remote HTTPS access

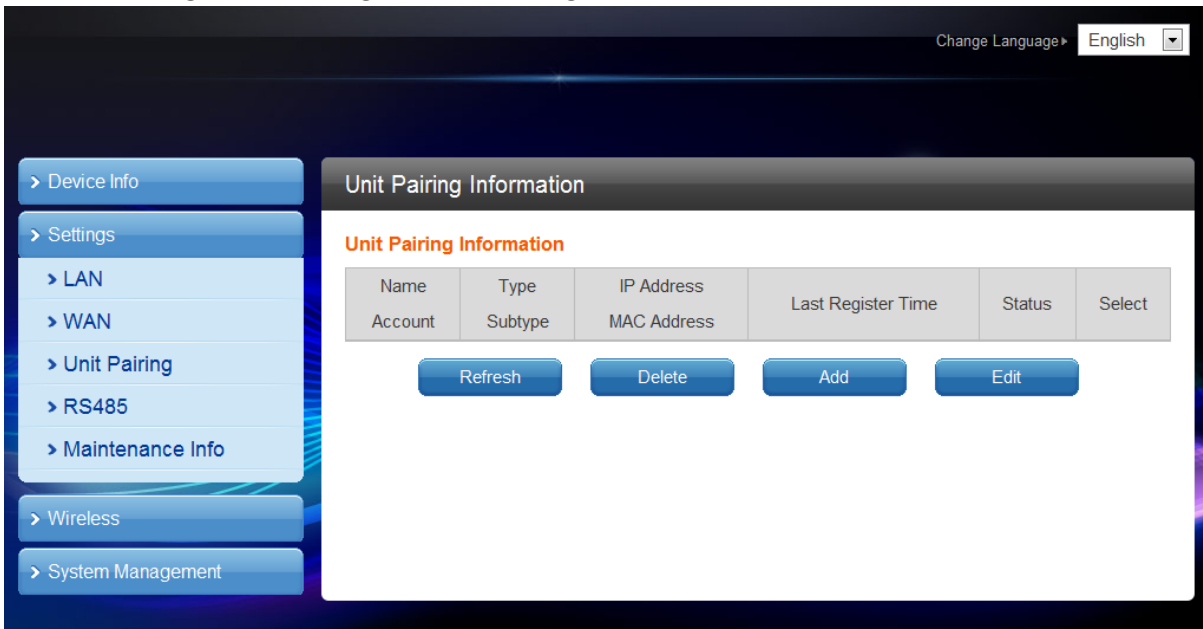
"Normal HTTP" can enable or disable remote HTTP access

"Remote Login" can enable or disable remote login



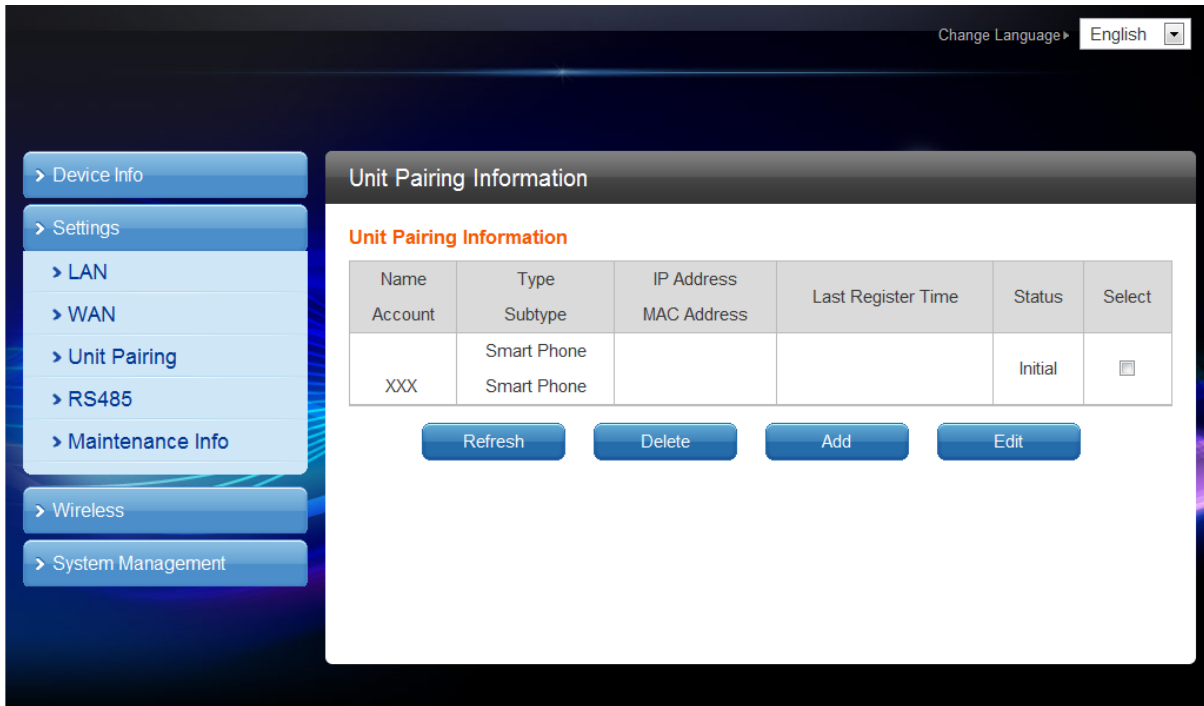
## 2.3 Unit Pairing

Users can register through the webpage, as shown below :

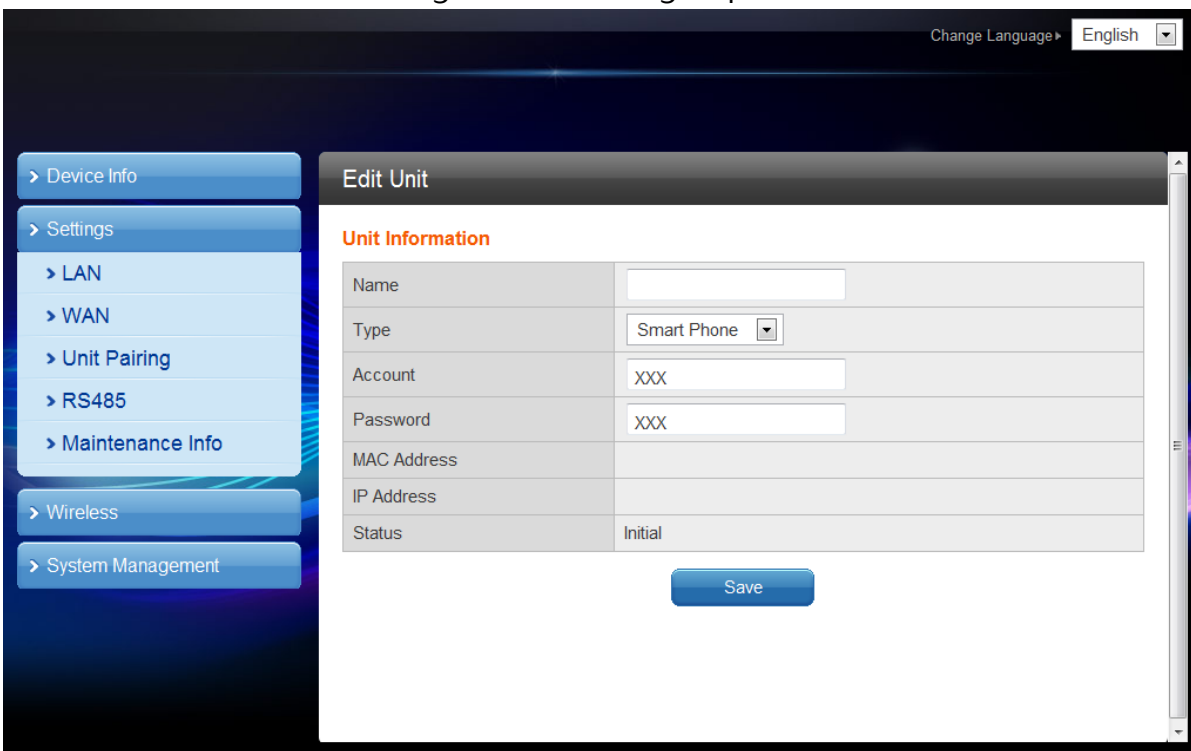


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1. Press the "Add" button to automatically create a new terminal device.



2. Check the newly generated terminal device, and press the "Edit" key to enter the editing screen, you can edit the various information of the terminal device.
  - Name: Fill in the appropriate name according to personal needs.
  - Type: Smartphone.
  - Account: Please enter the number within 100 ~ 109, and this number cannot be the same as other registered terminal equipment.
  - Password: can be reconfigured according to personal needs.



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3. After editing the information, press the "Save" button, and then press the "Start Pairing" button to enter the device registration program.

Change Language > English

> Device Info

> Settings

> LAN

> WAN

> Unit Pairing

> RS485

> Maintenance Info

> Wireless

> System Management

### Edit Unit

#### Unit Information

Name	100
Type	Smart Phone
Account	100
Password	100
MAC Address	
IP Address	
Status	Pairing

Save Start Pairing Stop Pairing

4. After successful registration, the status will show "Connected".

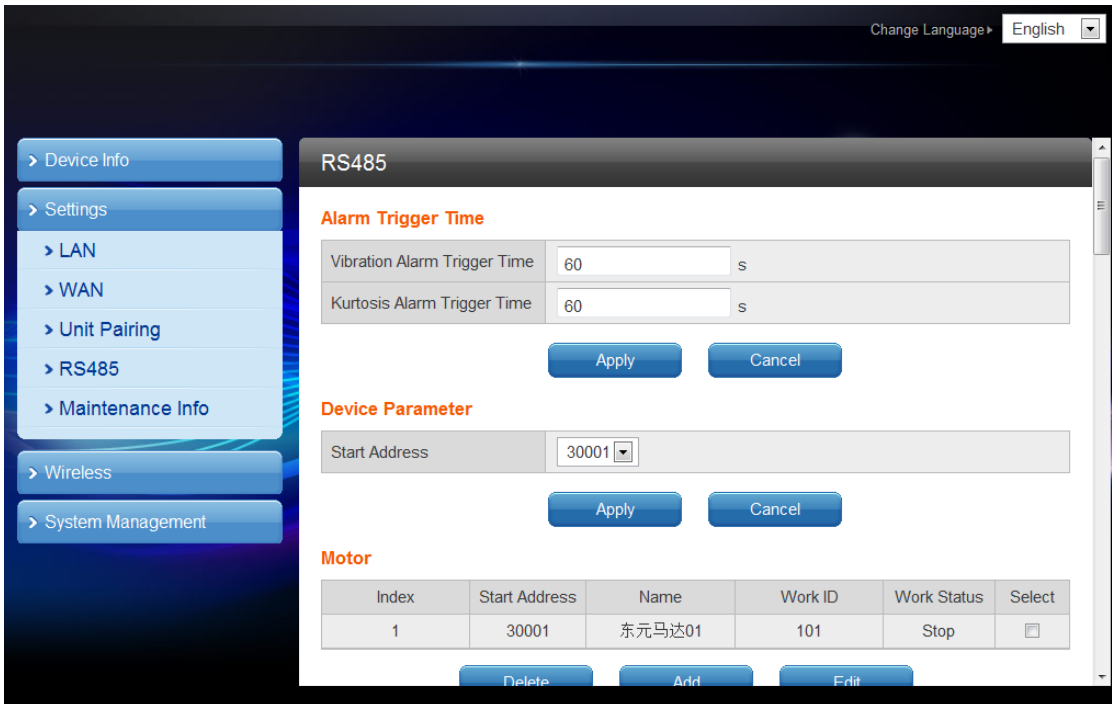
#### Unit Pairing Information

Name	Type	IP Address	Last Register Time	Status	Select
Account	Subtype	MAC Address			
101	Smart Phone	192.168.0.1	2016-01-01 00:06:17	Connected	<input type="checkbox"/>
101	Smart Phone	a0:f4:50:c3:01:d5			

Refresh Delete Add Edit

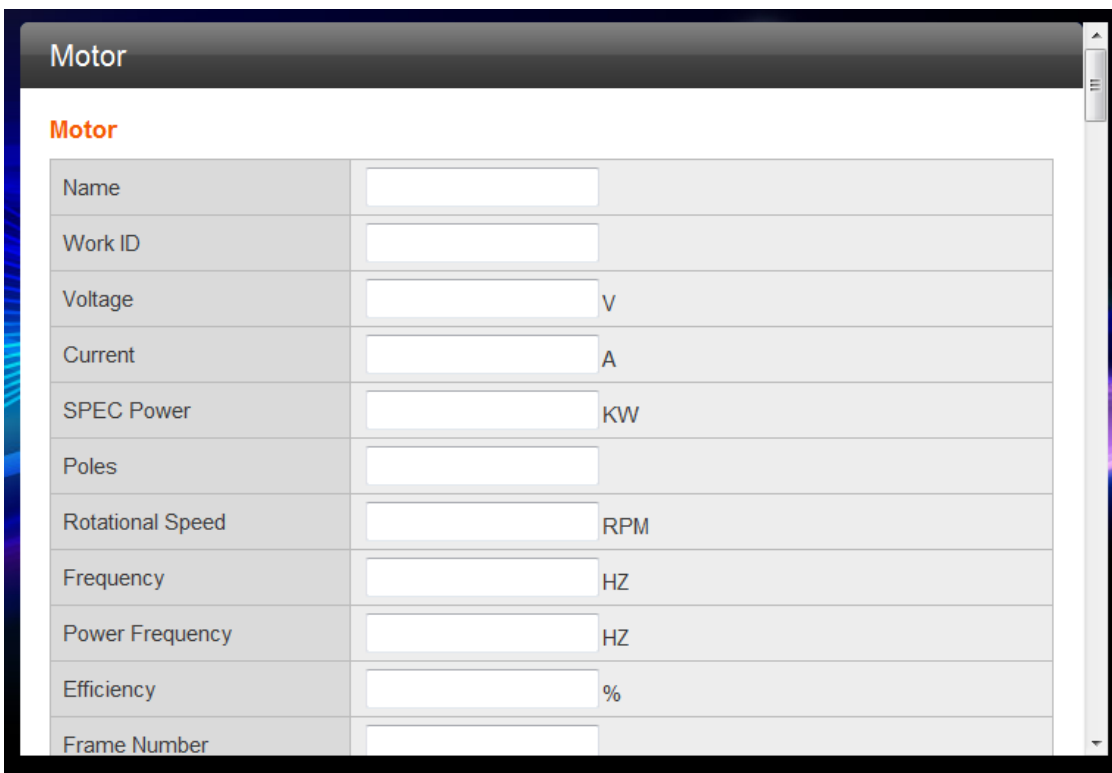
## 2.4 RS485

Users can use this project to add equipment, set and view equipment parameters, and configure the "Alarm Trigger Time" of the alarm and the "Start Address" of the equipment.



1> .Add Motor :

1. Select the "Add" button in the motor, enter the configuration parameters, and click "Save" to add a motor.



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Some parameters are explained as follows:

Name: fill in as required

Work ID : Motor factory ID

Drive Mode : direct drive and inverter drive

Control point : Configure DO

F AE Information : Contact Information for Equipment Maintenance Personnel




Engineer Information : Factory Technician Contact

2. After adding the motor, you can add IEPE below.

Bearing Designation	100
Maintenance Hours	12000
Drive Mode	Direct Drive ▾
F AE Information	There is not the F AE information
Engineer Information	There is not the engineer information

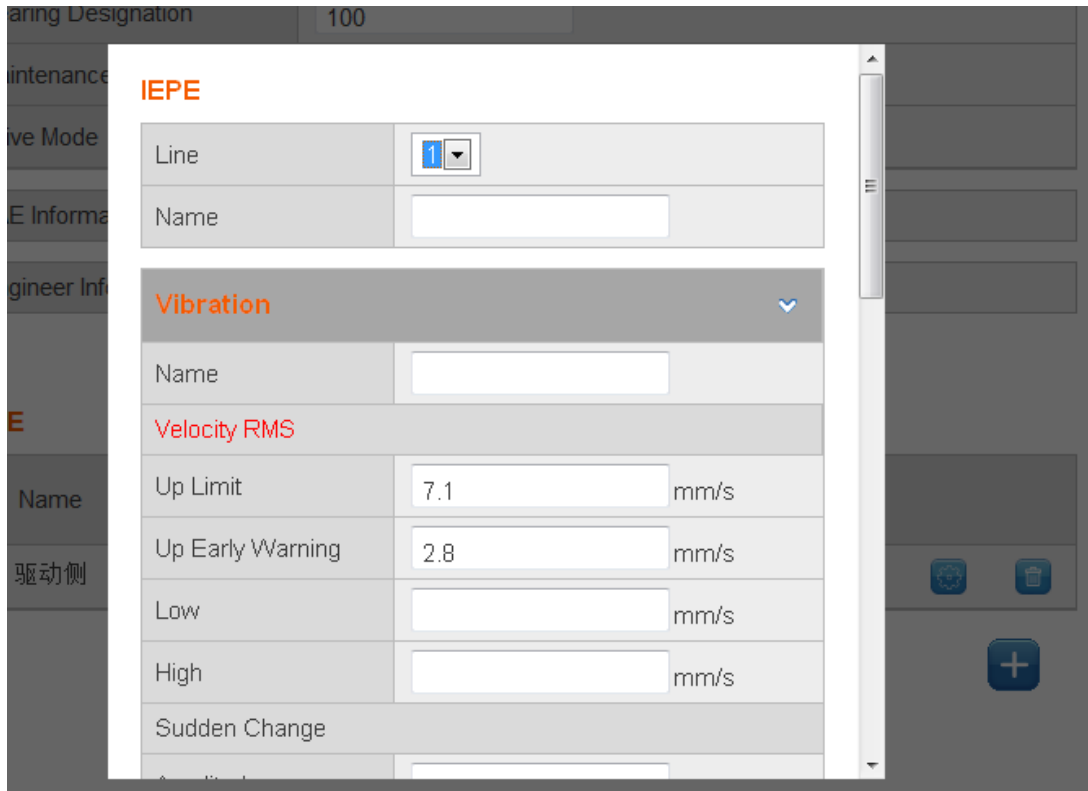
[Save](#)

**IEPE**

Name	Line	HW Version	SW Version	CPU Temperature	
驱动侧	1	1.0	1.0	38	  

[+](#)

3. Add an IEPE, select "+", and complete the IEPE setting in the pop-up box. Click the "Save" button to save.



Some parameters are explained as follows:

Line : Choose to use the first set of lines (1) or the second set of lines (2)

Name : can be filled as required

### Vibration

Name : fill in as required

### Velocity RMS

Up Limit : When the vibration reaches this set value, an alarm will be issued. Please fill in (mm / s) according to the specifications.

Up Early Warning : When the vibration reaches this set value, a warning notification is issued. Please fill in (mm / s) according to the specifications.

Low : minimum vibration setting value, please fill in according to the specification (mm / s).

High : The highest vibration setting value, please fill in according to the specification (mm / s).

### Sudden Change

Amplitude : Please fill in the value (mm / s) as required (if no value is filled in, this function will be automatically turned off).

Time : Please fill in the value according to the requirements, the range is 5-60.

### Acceleration RMS

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Up Limit : When this set value is reached, an alarm will be issued. Please fill in (mm / s<sup>2</sup>) according to the specifications.

Up Early Warning : When the set value is reached, a warning notification is issued. Please fill in according to the specifications (mm / s<sup>2</sup>).

Low : The lowest setting value, please fill in according to the specifications (mm / s<sup>2</sup>).

High : The highest setting value, please fill in according to the specifications (mm / s<sup>2</sup>).

### **Sudden Change**

Amplitude : Please fill in the value (mm / s<sup>2</sup>) as required (if no value is filled in, this function will be automatically turned off).

Time : Please fill in the value according to the requirements, the range is 5-60.

### **Displacement**

Up Limit : When this set value is reached, an alarm will be issued. Please fill in (mm) according to the specifications.

Up Early Warning : send pre-warning notice when reaching this set value, please fill in (mm) according to specifications.

Low : The lowest setting value, please fill in (mm) according to the specifications.

High : The highest setting value, please fill in (mm) according to the specifications.

### **Sudden Change**

Amplitude : Please fill in the value (mm) as required (if the value is not filled in, this function will be automatically turned off).

Time : Please fill in the value according to the requirements, the range is 5-60.

### **Kurtosis**

Up Limit : When this set value is reached, an alarm is issued.

Up Early Warning : A warning notification is issued when this set value is reached.




Low : The lowest setting value.

High : The highest setting value.

After adding, you can click the configuration icon to modify the parameters of IEPE.

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## IEPE

Name	Line	HW Version	SW Version	CPU Temperature	
驱动侧	1	1.0	1.0	38	  



**IEPE**

Sensitivity	<input type="text" value="100"/>
Mode	<input type="text" value="Normal"/>
Sampling Rate	<input type="text" value="16KHZ"/>
High-Pass Frequency	<input type="text" value="10"/>
Low-Pass Frequency	<input type="text" value="1000"/>
FFT Window	<input type="text" value="Kaiser-Bessel"/>
Start Frequency	<input type="text" value="1"/>
Stop Frequency	<input type="text" value="10000"/>
Step Frequency	<input type="text" value="1"/>
Velocity Gain	<input type="text" value="32768"/>
Acceleration Gain	<input type="text" value="32768"/>

4. XDAQ600 (P) additionally contains PMS related setting parameters, as shown below :

Sample Number	<input type="text" value="8192"/>
Sample Rate	<input type="text" value="16000"/>
Rotation Rate	<input type="text" value="1800"/>
Threshold	<input type="text" value="10"/>
Ball Diameter	<input type="text" value="0"/>
Bearing Pitch	<input type="text" value="0.001"/>
Ball Number	<input type="text" value="0"/>
Contact Angle	<input type="text" value="0"/>
Inner Frequency	<input type="text" value="0"/>
Outer Frequency	<input type="text" value="0"/>
Roller Frequency	<input type="text" value="0"/>

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Rotor Number	<input style="width: 70%;" type="text" value="0"/>
Gear Frequency	<input style="width: 70%;" type="text" value="0"/>
Gear Number	<input style="width: 70%;" type="text" value="0"/>
Low Frequency	<input style="width: 70%;" type="text" value="1000"/>
High Frequency	<input style="width: 70%;" type="text" value="4000"/>

**PMS parameters are described as follows :**

Field	Description
Sample Rate	Keep it the same as DAQ setting
Sample Number	Keep it the same as DAQ setting
Fa (Spinning) in RPM	Motor spinning speed in RPM
Threshold	There are 17 known defects. The application will calculate the confidence level of each defects. Only when the confident level > Threshold will be shown in the diagnosis information field.
Contact Angle	Contact Angle
Bearing Diameter	The theoretical median diameter of a bearing, which passes through the center of the balls.
Number of Balls	Number of balls
Ball Diameter	Diameter of balls
Inner Frequency	Ball Pass Frequency of Inner Ring
Outer Frequency	Ball Pass Frequency of Outer Ring
Roller Frequency	Ball Spin Frequency
Number of Rotors	Number of rotor bars in a motor
Fp(Driven Gear)	The output speed of a gear box

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Number of Gears	The number of teeth of first driven gear.
Low frequency	Ignore frequency lower than low frequency
High frequency	Ignore frequency higher than high frequency

Note : The PMS parameters are supported for xDAQ-600 (P) only.

2>. Add the switchgear :

1. Select the "Add" button in the switchgear, enter the parameter configuration, and click "Save" to add a switchboard.

### Switchgear

**Switchgear**

Name	<input type="text"/>
Work ID	<input type="text"/>
Voltage	<input type="text"/> V
Current	<input type="text"/> A
Frequency	<input type="text"/> HZ
Phase	<input type="text"/>

F AE Information	There is not the FAE information
Engineer Information	There is not the engineer information

3>. Add other devices:

1. Select the "Add" button in other devices, enter the parameter configuration, and click "Save" to add another device.

**Other Device**

**Other Device**

Name	<input type="text"/>
Work ID	<input type="text"/>
Voltage	<input type="text"/> V
Current	<input type="text"/> A
Frequency	<input type="text"/> HZ
Phase	<input type="text"/>

FAE Information	There is not the FAE information
Engineer Information	There is not the engineer information

2. After adding other devices, you can add IEPE below.

Current	<input type="text" value="112"/> A
Frequency	<input type="text" value="223"/> HZ
Phase	<input type="text" value="33"/>

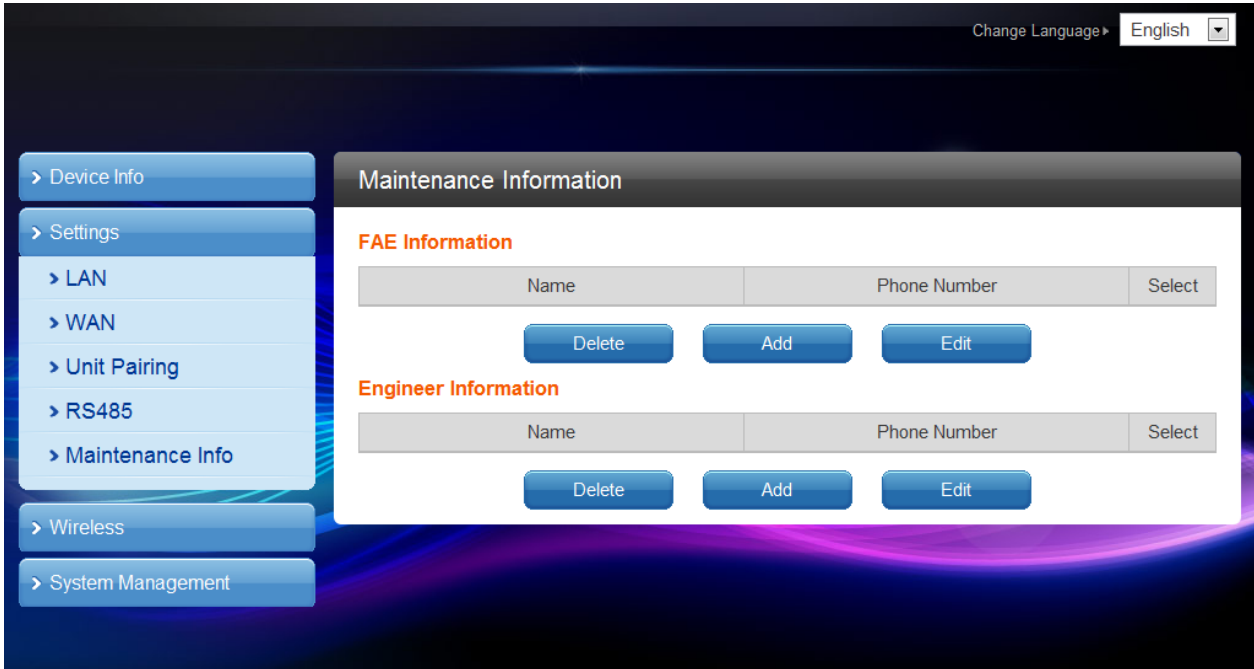
FAE Information	There is not the FAE information
Engineer Information	There is not the engineer information

**IEPE**

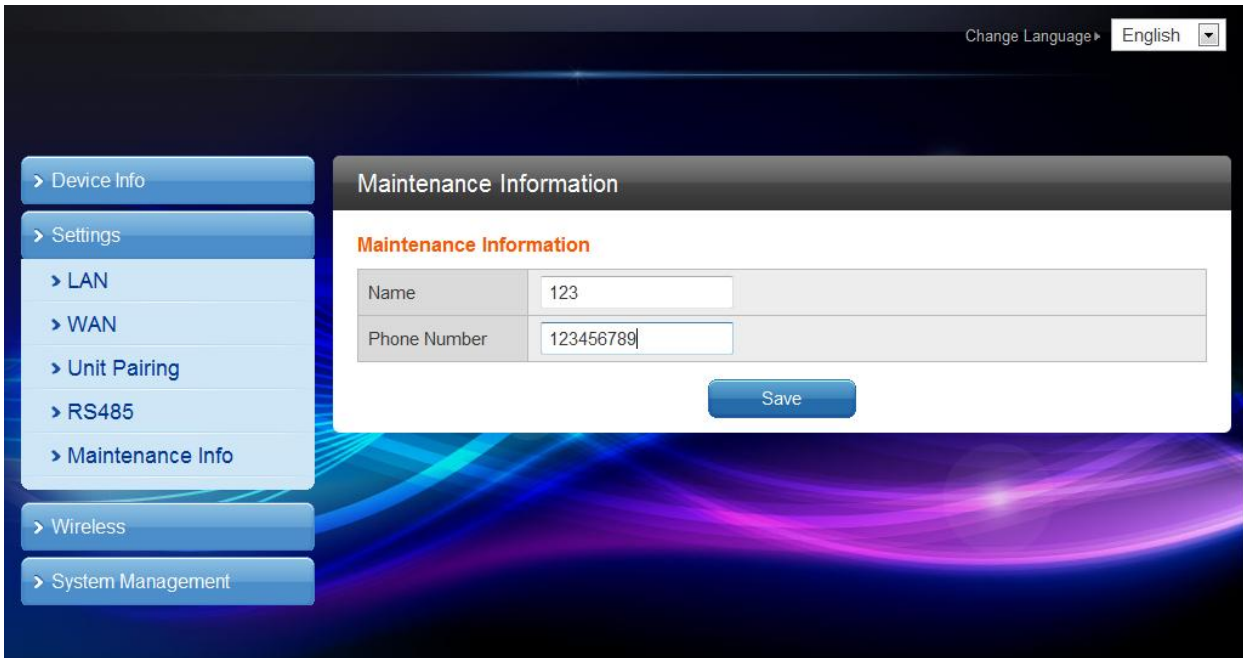
Name	Line	HW Version	SW Version	CPU Temperature	
<input style="float: right;" type="button" value="+"/>					

## 2.5 Maintenance Info

Users can use this project to add contact information of equipment maintenance personnel and factory technicians.



1. Click "Add", enter name and phone number, save and add a contact.

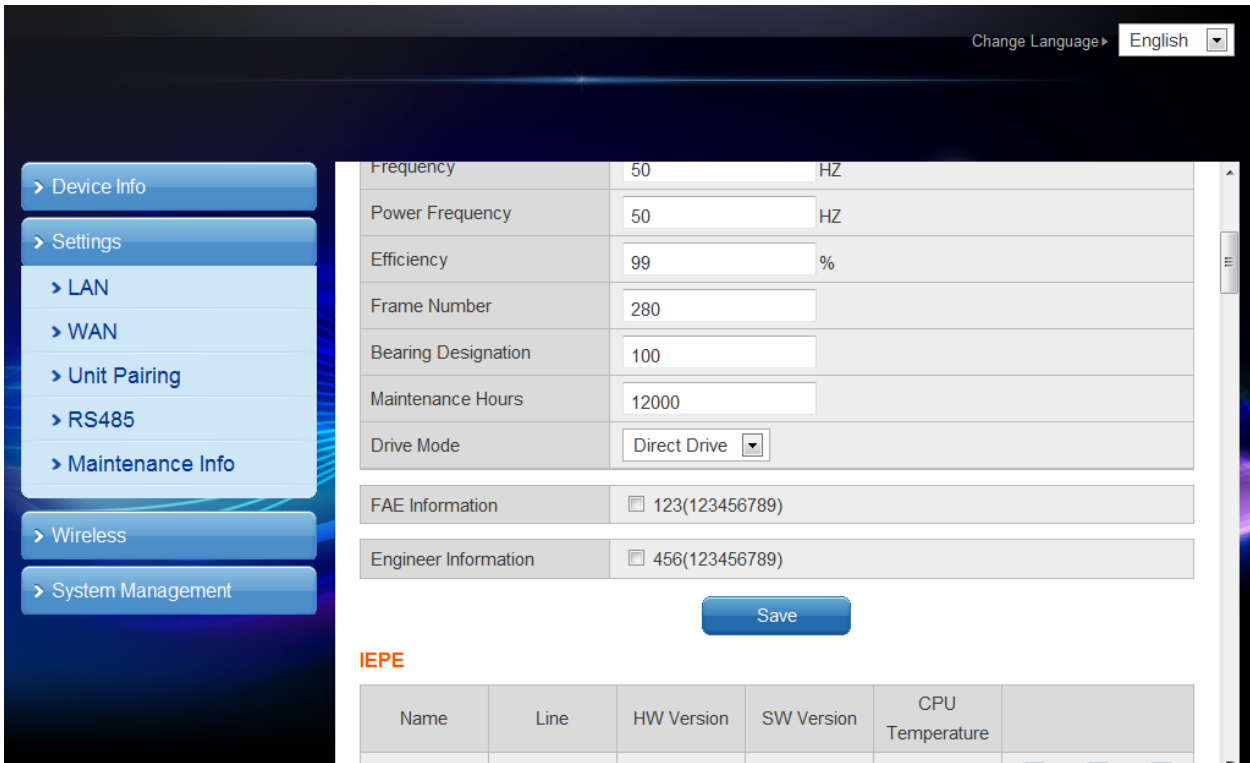


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2. After checking the contact list, click the "Edit" or "Delete" button to edit or delete a record.



3. Contacts can be selected on the device's settings page :



## 3. Wireless

First, set the wireless mode on the "WiFi Mode Setting" page. The menu options on the left will be different under different wireless modes.

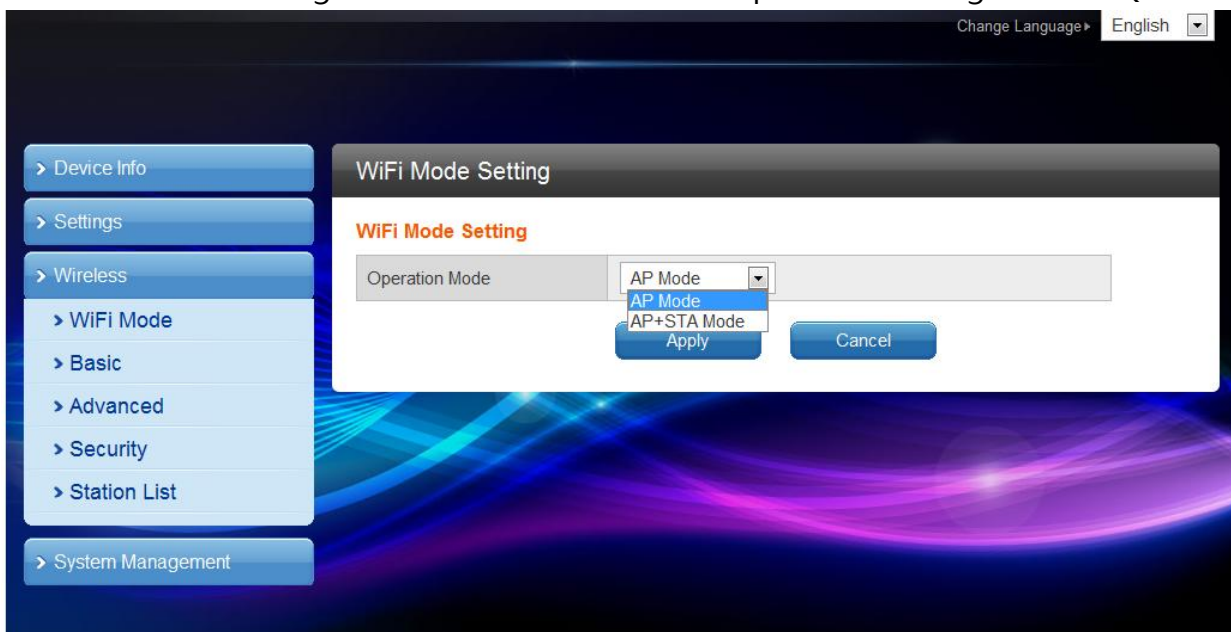
### 3.1 WiFi Mode Setting

Users can use this item to set the wireless mode: wireless hotspot (AP) mode or wireless hotspot + client (AP + STA) mode.

When the XDAQ-600 is in the wireless hotspot mode, other wireless clients (including mobile phones) can log in to the XDAQ-600 webpage through WiFi to configure the XDAQ-600.

When the XDAQ-600 is in the wireless client mode, the XDAQ-600 itself can be used as a wireless client to connect to other wireless access points (including the 4G wireless router inserted on the XDAQ-600).

Please note: Switching between the two modes requires restarting the XDAQ-600.



## 3.2 Basic Wireless Settings

### 3.2.1 Basic Settings

This item allows users to set the most basic settings for wireless communication in wireless hotspot mode, such as network name, network mode, etc. WIFI is enabled by default. The page is shown below :

Change Language > English

> Device Info

> Settings

> Wireless

> WiFi Mode

> Basic

> Advanced

> Security

> Station List

> System Management

### Basic Wireless Settings

You could configure the minimum number of Wireless settings for communication, such as Network Name (SSID) and Channel. The Access Point can be set simply with only the minimum setting items.

**Wireless Network**

WiFi	Enable
Network Name(SSID)	Tecom_EC2824
Network Mode	11b/g/n mixed mode
Frequency (Channel)	2412MHz (Channel 1)
Broadcast Network Name (SSID)	Enable
AP Isolation	Disable
BSSID	00:19:15:ec:28:22

Apply Cancel

After modifying the settings, click Apply and wait for about 10 seconds without restarting.

### 3.2.2 Advanced Settings

Users can use this item to set advanced parameters of wireless network in wireless hotspot mode, such as transmit power, country and region, and support channels. Wait for about 10 seconds after clicking Apply without restarting.



### 3.2.3 Security Settings

Users can use this item to set up wireless security and encryption in wireless hotspot mode to prevent unauthenticated devices from accessing and monitoring. The mode has two options: off and WPASKWPA2PSK. The default is off. After selecting "WPAPSKWPA2PSK", set the WPA parameters below.

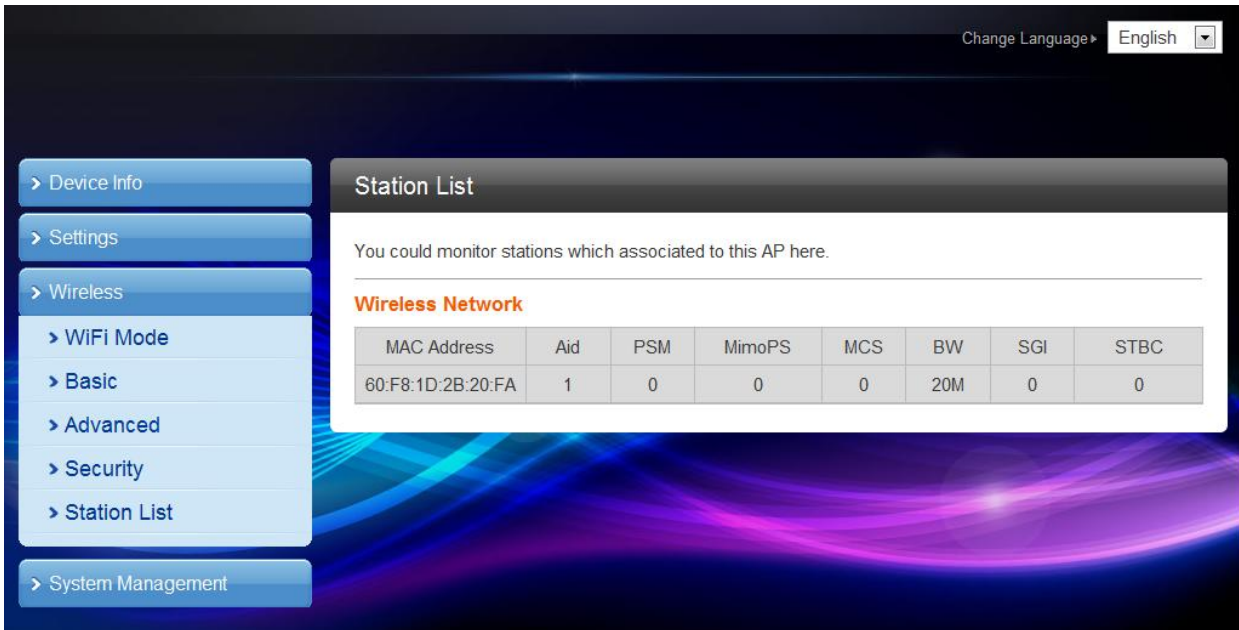


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Set the WPA algorithm, password and key update interval. After saving successfully, the client needs to fill in the password set here when connecting to WIFI.

### 3.2.4 Station List

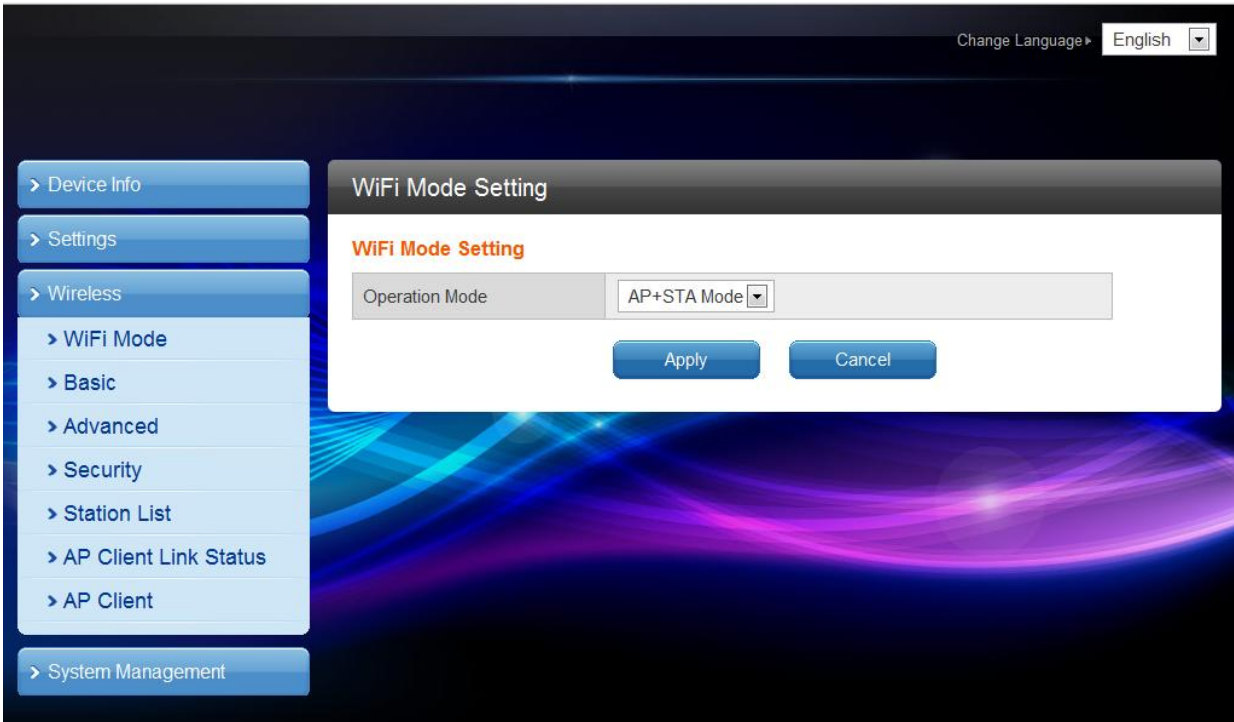
Users can use this project to monitor clients connected to XDA-Q600 in wireless hotspot mode.



The screenshot shows the 'Station List' page in the xDAQ-600 web interface. The page has a dark background with a blue and purple abstract design at the bottom. On the left, there is a navigation menu with the following items: Device Info, Settings, Wireless (expanded), WiFi Mode, Basic, Advanced, Security, Station List, and System Management. The main content area is titled 'Station List' and contains the text: 'You could monitor stations which associated to this AP here.' Below this text is a section titled 'Wireless Network' which contains a table with the following data:

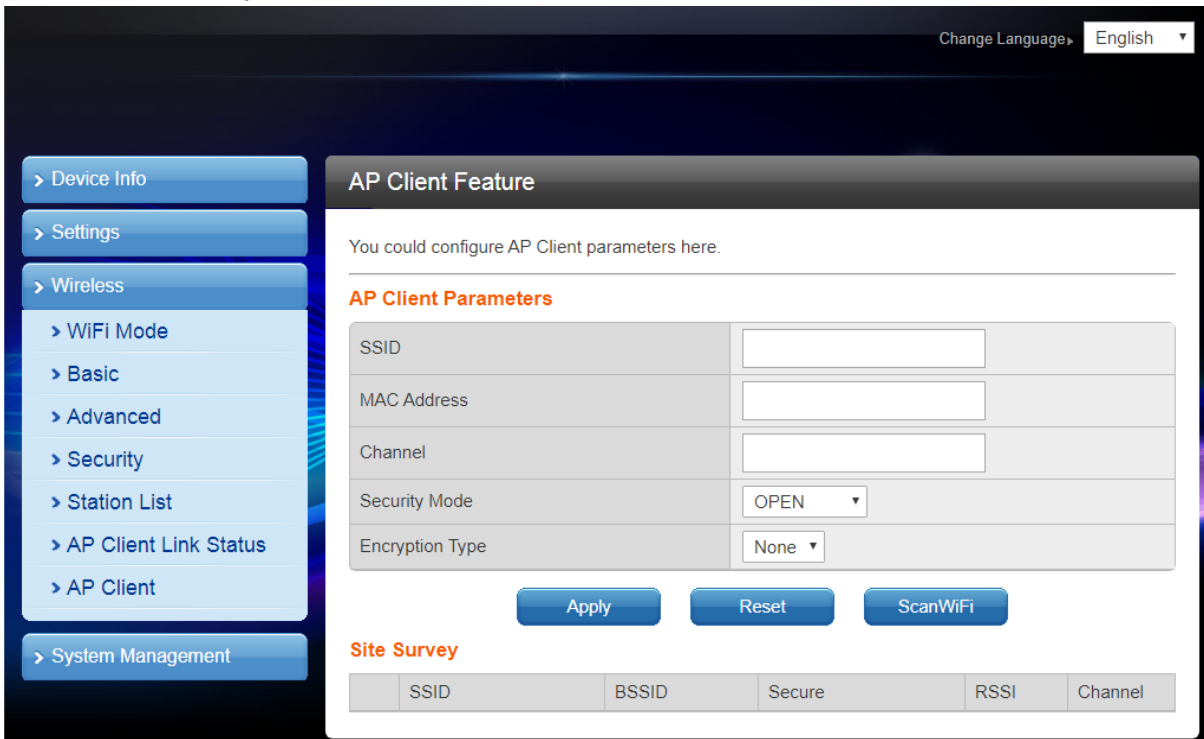
MAC Address	Aid	PSM	MimoPS	MCS	BW	SGI	STBC
60:F8:1D:2B:20:FA	1	0	0	0	20M	0	0

## 3.3 AP+STA Mode

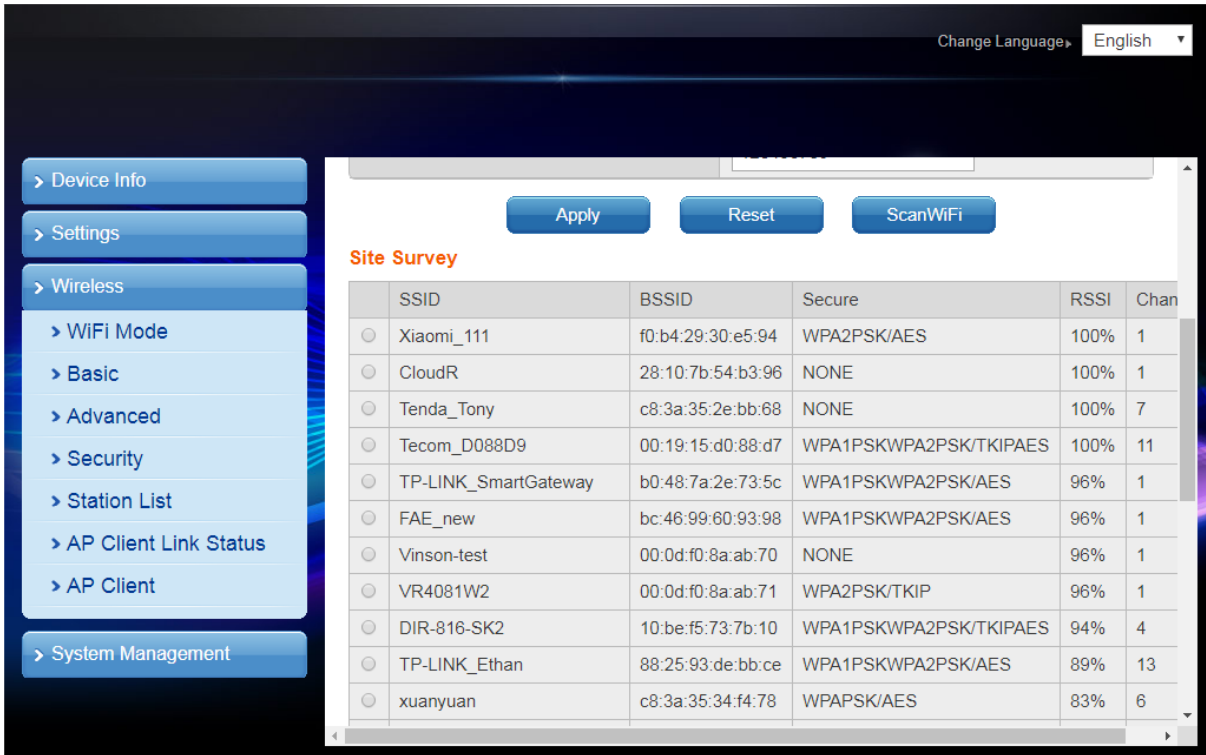


When the XDAQ-600 is in the wireless hotspot + client mode, you can first find the available wireless hotspots by scanning the hotspot (such as inserting the 4G wireless network card of the XDAQ-600).

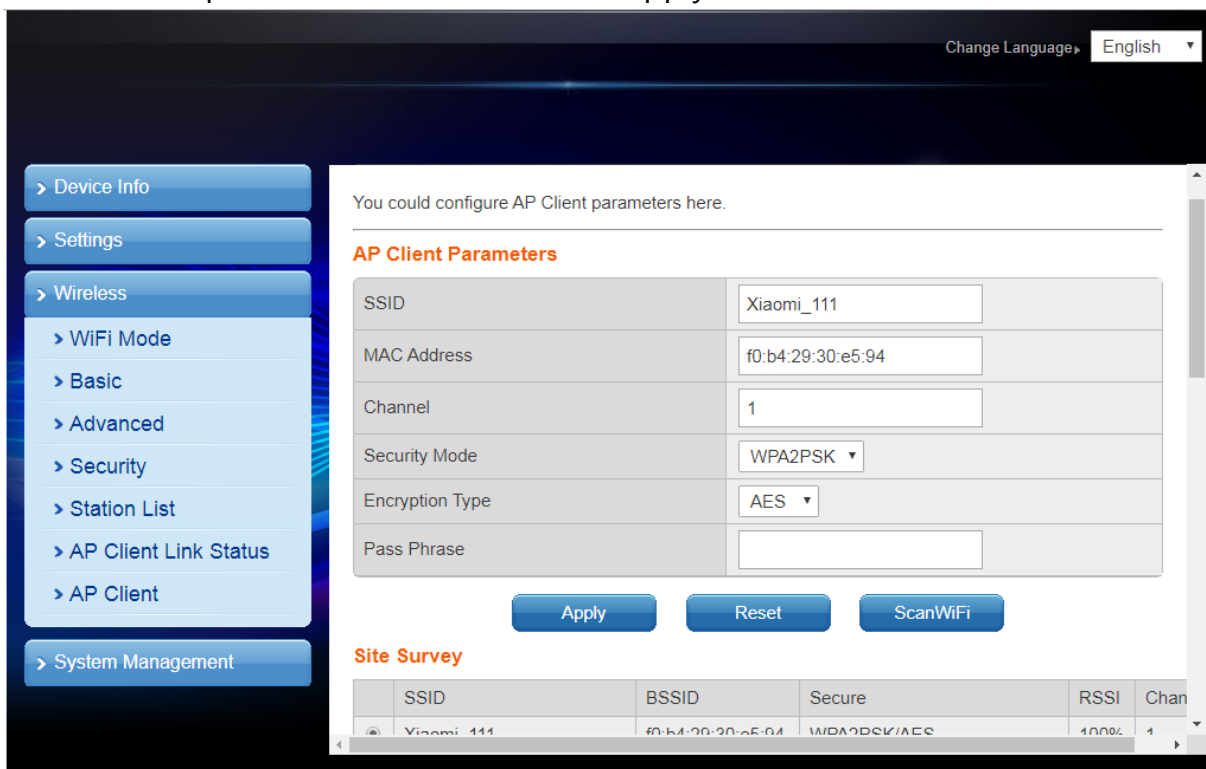
### 3.3.1 Scan nearby hotspots



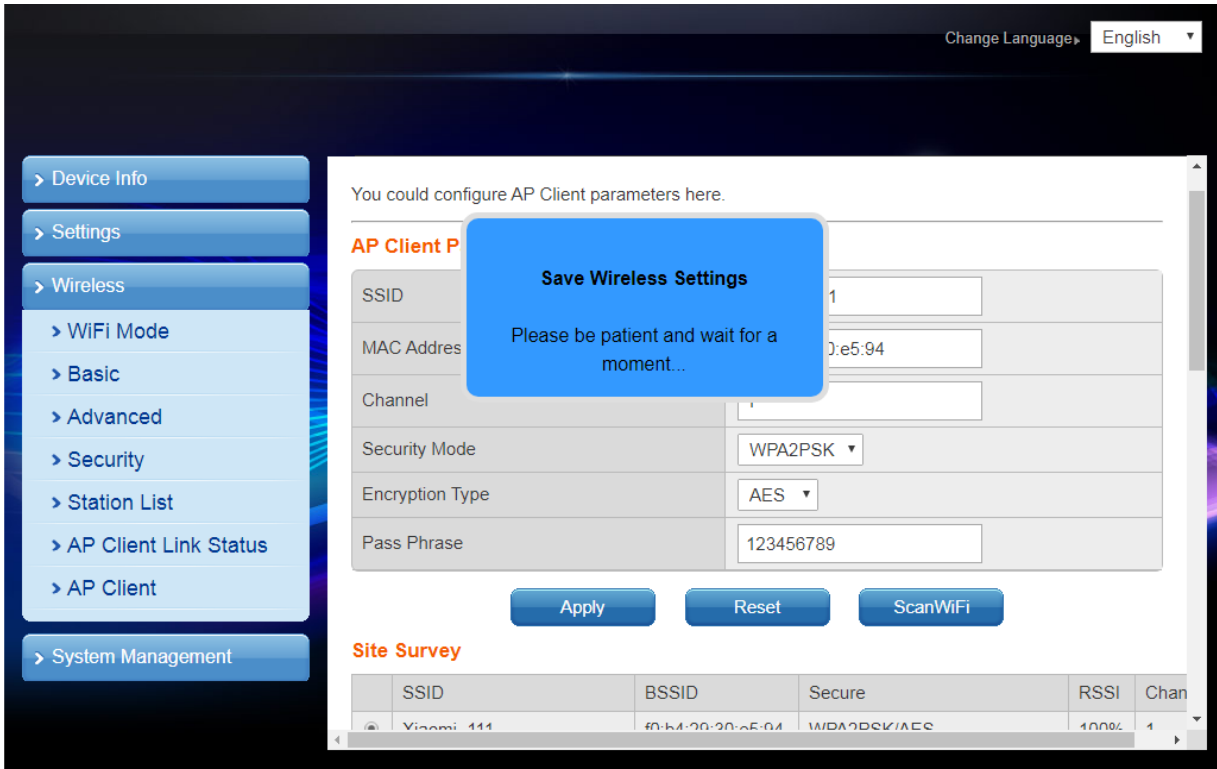
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Select a hotspot, and the wireless client parameter section will be filled in automatically. If a password is set for this hotspot, please enter the password in the "Password" input box, and then click the "Apply" button.

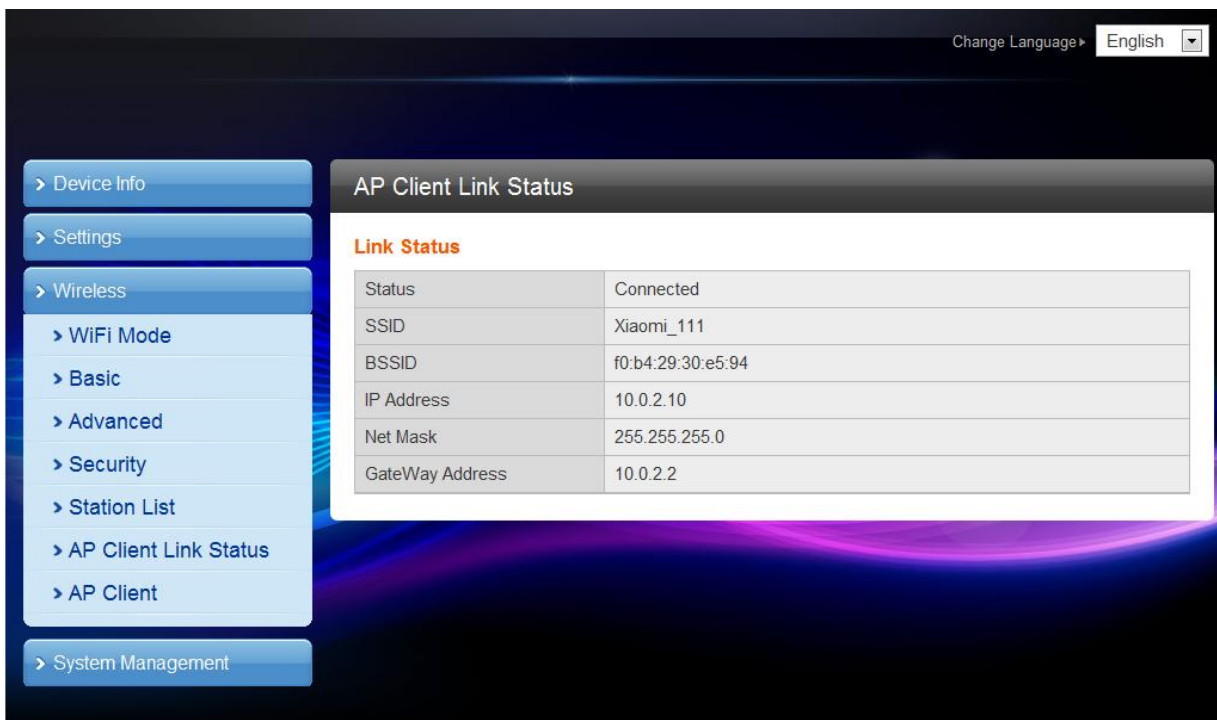


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After a while, if you want to know if the connection is successful at this time, you can visit the Connection Status page.

### 3.3.3 Connection Status

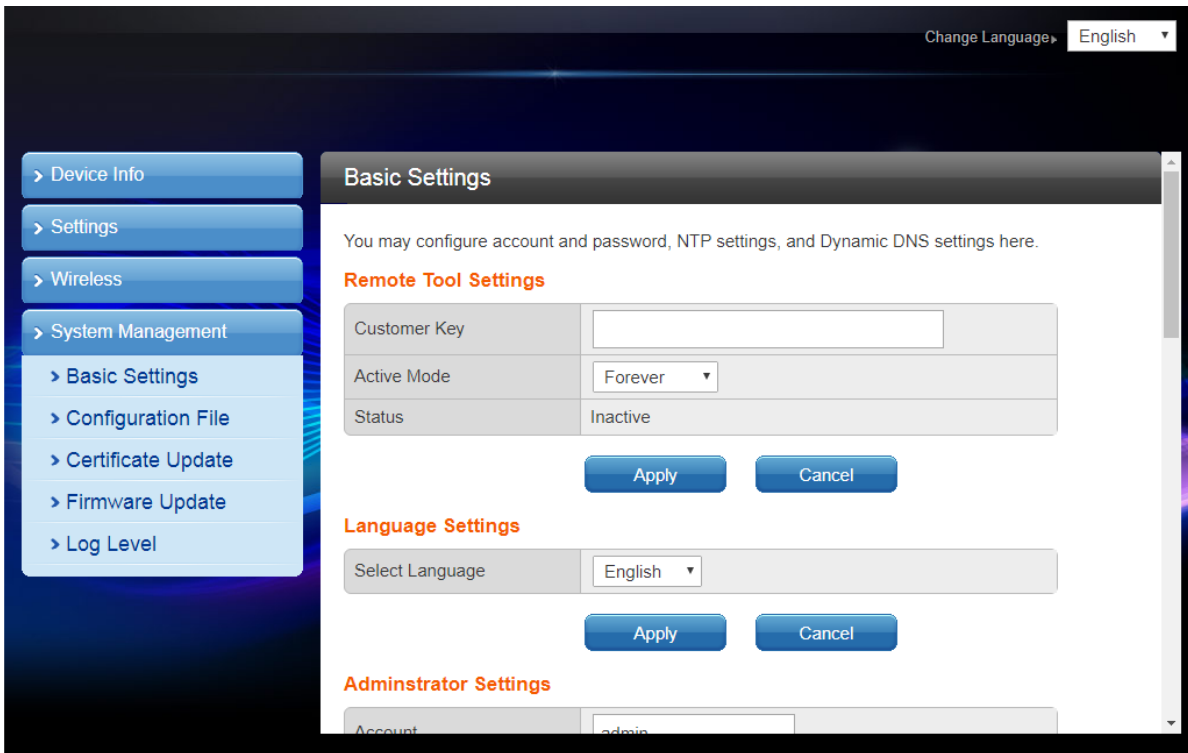


## 4. System Management

The system includes "Basic Settings", "Configuration File", "Certificate Update", "Firmware Update", and "Log Level".

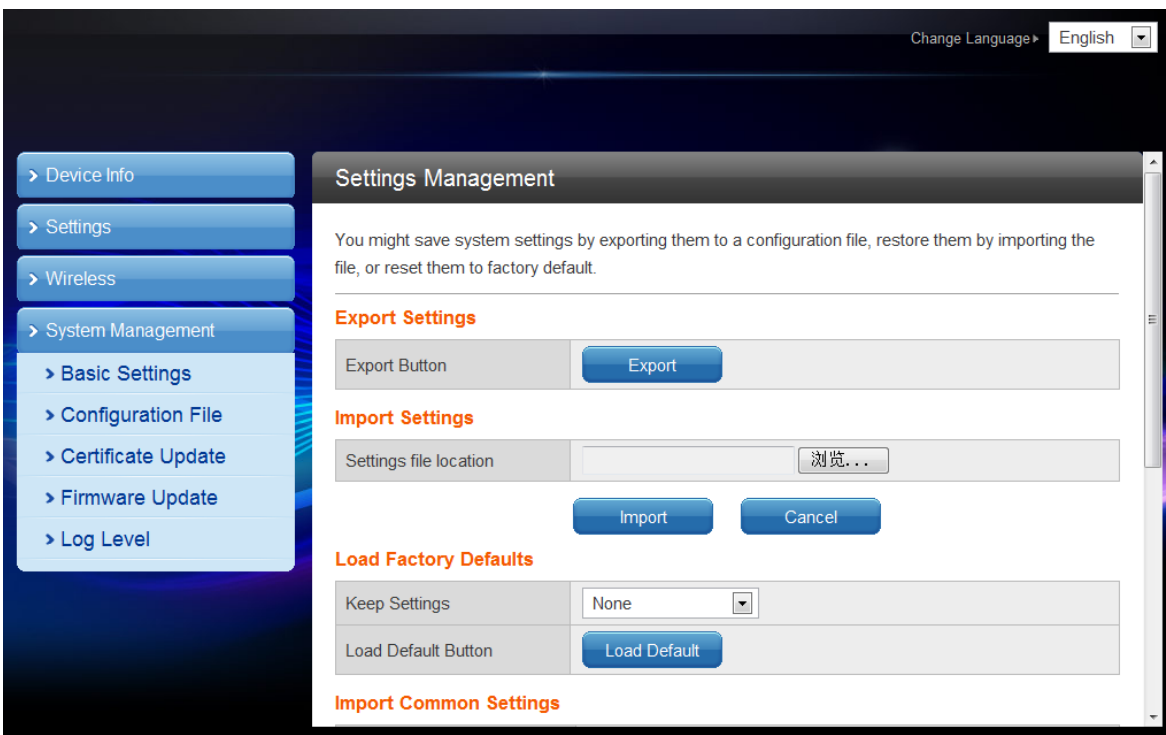
### 4.1 Basic Settings

Users can use this project to set basic settings, including remote tool settings, language settings, administrator settings, user settings, network time settings, and network ID settings.



## 4.2 Settings Management (Configuration File)

Users can use this project to export system settings files for saving system settings, import configuration files to restore the system, and restore system factory settings. The page looks like this :



The "Keep Settings" option is used to set the settings that the system needs to retain when restoring factory settings, including the WAN and account.

The "Import Common Settings" function is used for batch configuration. If an xDAQ-600 is configured, download its configuration file, and then upload it through this function on other xDAQ-600 pages, part of the configuration file of other xDAQ-600 will be synchronized with the configured xDAQ-600.

### 4.3 Certificate Update

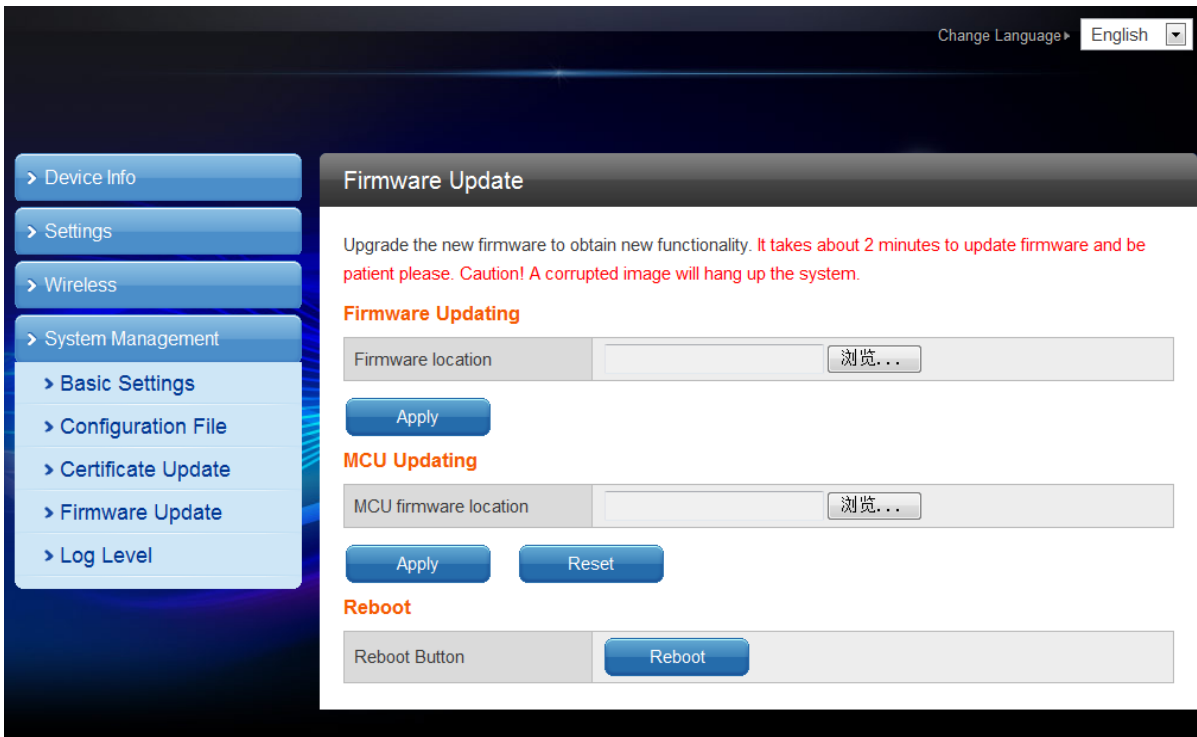
Users can use this item to set APNS certificate, import and configure APS client.



The screenshot shows the "Certificate Update" web interface. On the left is a navigation menu with options: Device Info, Settings, Wireless, System Management (Basic Settings, Configuration File, Certificate Update, Firmware Update, Log Level). The main content area is titled "Certificate Update" and includes a language selector (English) in the top right. It is divided into three sections: "APNS Certificate Setting" with fields for Name (ag300) and Private key password (masked), an "Apply" button; "Import APNS Certificate" with a "Certificate file location" field (显示文件 未选择任何文件), "Import" and "Cancel" buttons; and "APS Client Setting" with an "Enabled" dropdown (Enable) and a "Server URL" field (apns.tecom.com.tw).

### 4.4 Firmware Update

Users can use this project to upgrade the xDAQ-600 firmware. The page is as shown below :



## 4.5 Log Level

Users can use this project to set the log level.

After setting the log level and output target for a certain item, you need to click "Change Priority" to take effect.

If you want to output logs to a file, you need to set the file size. First click "Change Priority" and then click the "Download" button to download the log file.

Change Language English

- > Device Info
- > Settings
- > Wireless
- > System Management
  - > Basic Settings
  - > Configuration File
  - > Certificate Update
  - > Firmware Update
  - > Log Level

### Log Level

Set Indoor Private Protocol log level to None

log destination to Serial

Change Reset Download

#### Log Level List

Application Name	Log Level	Log Destination	log size
Indoor Private Protocol	Error	Serial	0 KB
Web	Error	Serial	0 KB
Launcher	Error	Serial	0 KB
Monitor	Error	Serial	0 KB
System Manage	Error	Serial	0 KB
APS Client	Error	Serial	0 KB
Long Tooth	Error	Serial	0 KB
Modbus Server	Error	Serial	0 KB
APNS	Error	Serial	0 KB