HPR8401SM series

SD Encoder + Modulator

User’s Manual

V1.21

HPR8401SM-4 AV input

HPR8401SM-8 AV input

1 Product Overview

The HPR8401SM series is the latest cost-effective SD encoder modulator. It supports 4 / 8 CVBS inputs, 1 channel Gigabit IP input / output; 4 channel(ATSC、ISDBT、DTMBT、DVB-C/-T) output, MPTS and SPTS output. With high integration, great performance and low cost, Integrating a complete front-end system functions, this device is highly welcomed in small digital TV transmission systems such as hotels, clubs, hospitals,etc.

2 Key Features

- 4 / 8 channels CVBS input
- 1 Gigabit IP input/output, 128 SPTS and 1 MPTS output, UDP/RTP protocol (multicast)
- All standard modulation (ATSC、ISDBT、DTMBT、DVB-C/-T) output optional.
- Support 2* ASI input/output (optional)
- Web network management
- Support online software upgrading

3 Specifications

Input	4/8 CVBS		
	ASI input (optional)		
	128 IP address input		
Output	RF output 4 frequencies（DVB-C/DVB-T/ATSC/ISDBT/DMBT）		
	ASI output (optional)		
	IP output（128 SPTS/1 MPTS）IP output over UDP and RTP protocol		
Modulation Mode	DTMBT		4 DTMB
		Standard	DTMB GB20600-2006
		Constellation	4QAM、16QAM、32QAM、64QAM
		MER	≥40dB
		RF frequency	96~864MHz，1kHz step
		RF output level	-35dBm~-5dBm，0.1dB step
	DVB-T		4 DVB-T
		Standard	EN300744
		FFT	2K
		Bandwidth	6M, 7M, 8M
		Constellation	QPSK, 16QAM, 64QAM
		Guard Interval	1/4, 1/8, 1/16, 1/32
		FEC	1/2, 2/3, 3/4, 5/6, 7/8
		MER	≥42 dB
		RF frequency	96~864MHz, 1KHz step
		RF output level	-35~ -5dBm, 0.1db step
	DVB-C		4 DVB-C
		Standard	EN300 429/ITU-T J.83A/B/C
		MER	≥40db
		RF frequency	96~864MHz, 1KHz step
		RF output level	-35~-5dBm , 0.1dBm step
		SR	5.0Msps~7.0Msps, 1ksps step
		Constellation	16/32/64/128/256QAM
		Bandwidth	8M
	ATSC	Standard	ATSC A/53
		MER	≥40dB
		RF frequency	96~864MHz, 1KHz step
		Constellation	8VSB
	ISDBT	Standard	ARIB STD-B31
		FFT	2K
		Constellation	DQPSK, QPSK, 16QAM, 64QAM

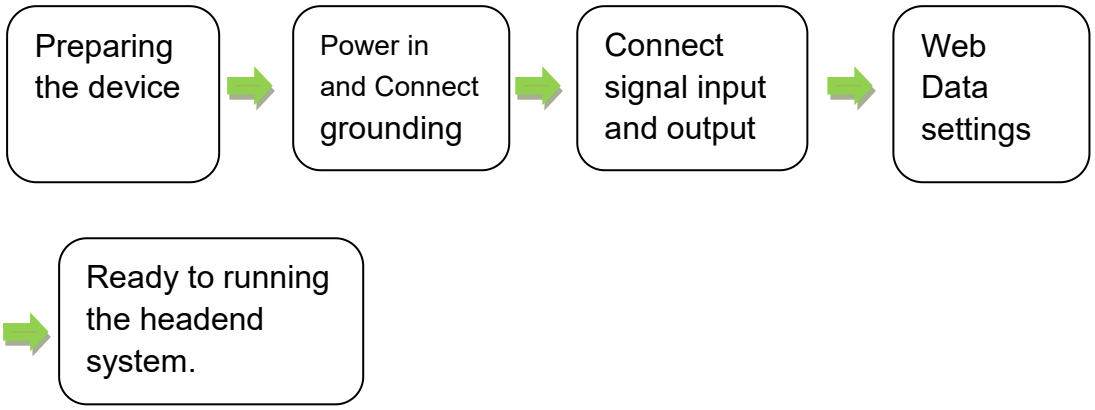
		FEC	1/2, 2/3, 3/4, 5/6, 7/8
		Hierarchical mode	A
		Bandwidth	6M
Video Encoding	Encode Format	MPEG-2	
	Code Rate	1Mbps~13Mbps（each channel)	
	Input port	CVBS	
	Resolution	Input : 720x576i/720x480i （PAL/NTSC)	
		Output : 720×576 / 720×480（PAL/NTSC) 544×576 / 544×480（PAL/NTSC) 480×576 / 480×480（PAL/NTSC) 352×576 / 352×480（PAL/NTSC) 352×288 / 352×240（PAL/NTSC) 176×144 / 176×112（PAL/NTSC)	
Video Encoding	Rate Mode	CBR	
	Encode Format	MPEG1 Layer2	
	Sample Rate	48KHz	
	Bit Rate	64kbps ,128Kbps,192kbps,224kbps,256kbps,320kbps, 384kbps	
System	Web/NMS		
	中文/English		
Miscellaneous	Dimensions	440mm×270mm×40mm	
	Weight	3-5 kg	
	Temperature	0~45℃(Operation); -20~80℃(Storage)	
	Voltage range	AC100~240V, 50/60Hz	
	Power consumption	<30W	

4 Front / Rear Panel

1.	LCD Display
2.	RF Out
3.	Buttons and Indicator lights
4	Reset(Press and hold for 3 seconds until the red light flashes)
5.	ASI
6.	NMS、DATA Input/ output
7.	CVBS input
8.	Power

5 Installation

5.1 Installation process:



5.2 Grounding

The headend encoder modulator and chassis for headend equipment both have to make grounding well, to protect the equipment from Lightning strikes or electricity instability.

5.5.2.1Web setting connection

Connect the encoder modulator from port “DATA 1/2” to computer by network cable.

6 Web Management

6.1 Description

Web Management is for the control, managing and settings of the digital headend equipment. The Browser to running the software we suggest is for IE8 or higher version or Firefox.

6.2 Log on the equipment

Open the browser, input IP: 192.168.0.136

Then input the user name and password：

User name：admin.

Password：admin

■ Caution：

1.If fail to connect the computer and headend equipment, please check if the computer and headend equipment are in same IP range.

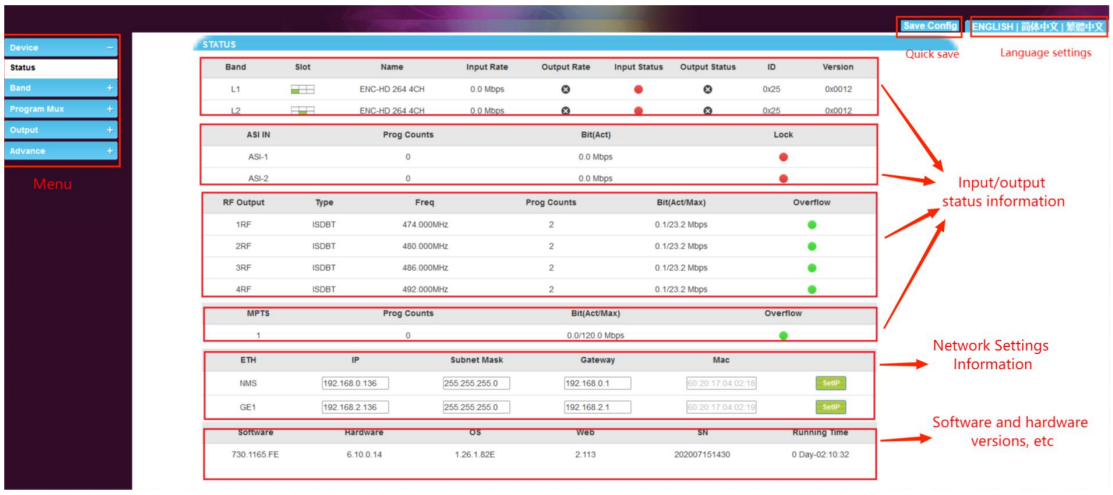
For example: The computer IP is 192.168.99.252,then we may need to set the headend equipment IP to be 192.168.99.xxx (from equipment front panel LCD screen), or to set the computer IP to be

same IP range as the equipment. (xxx can be any of 1-254 except“252”).

2. From front panel LCD SCREEN you can check the IP address of the headend equipment. The original IP : 192.168.0.136.

6.3.1 Basic instructions

After log on, you will get the following interface,



Tune to English version

Status: shows the basic information like the version of the system.

Input/ output status：shows the signal input and output status.

Software version: the version of the running software

Hardware version: the version of the running hardware

Web version: the running web page version

The System: the running system version

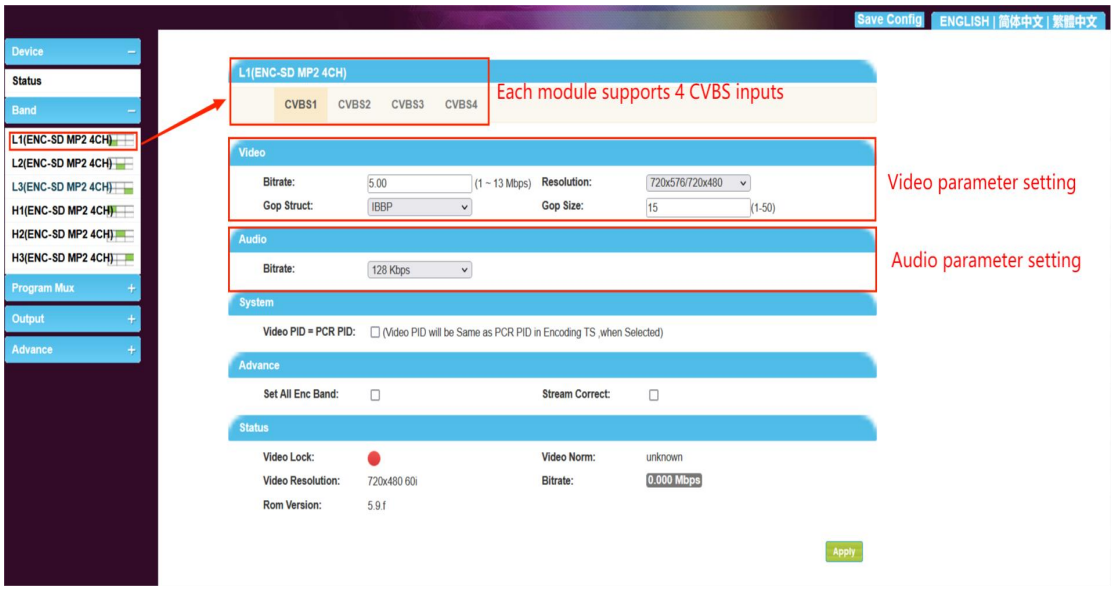
Time: the running time

6.3.2 Settings

There are Band settings, Program Mux, Modulation,and IP stream data under the Settings.

6.3.2.1 Band settings

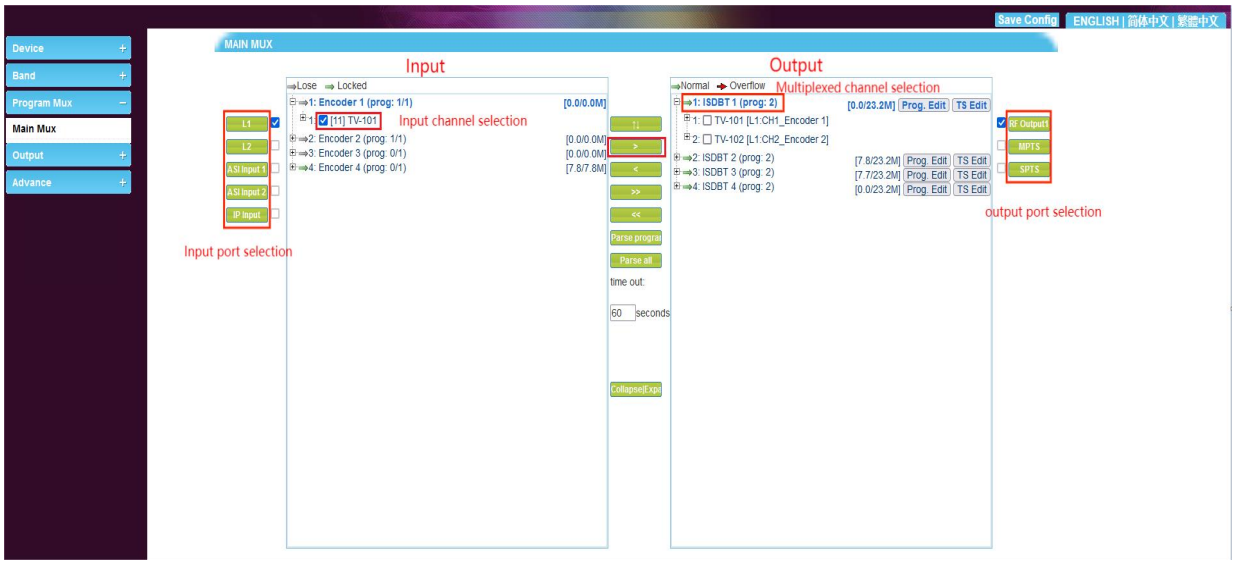
The equipment supports 4ch – 8ch CVBS input and multiplexing:



The HPR8401SM series encoder modulator offers 4 TV programs encoding for each encoding module, and max supports 2 encoding module for each equipment (total max 8 input programs). We can set detail data for each program.

6.3.2.2 Program stream settings

1.Main Mux

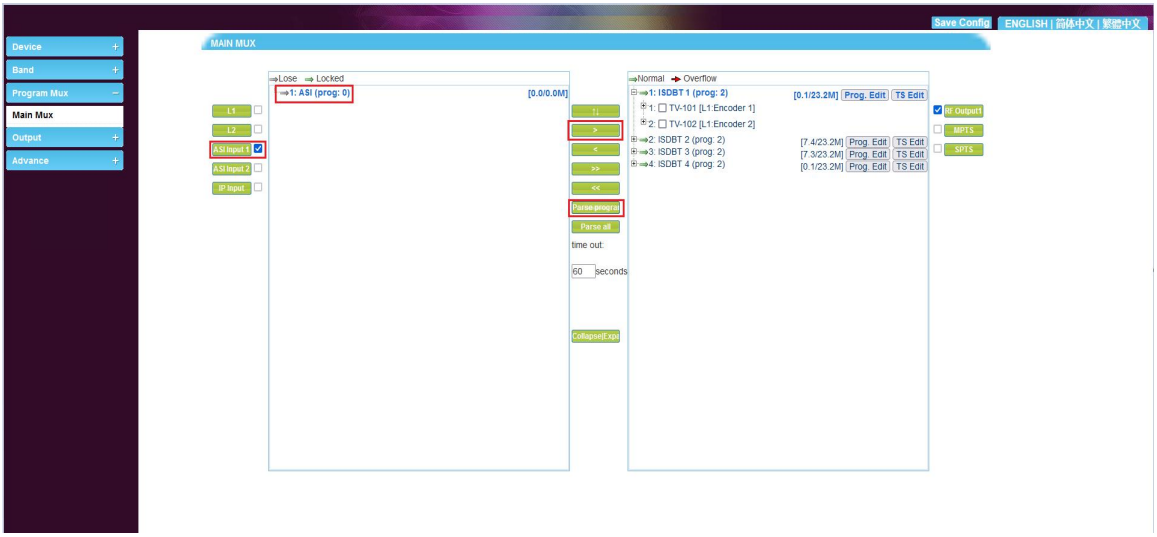


A、Program Edit: First choose the program, tick it [11], click“>”, to connect this program to the chosen frequency.

B、Program delete: ： First choose the program, tick it [11], click “<”,to delete this program from this frequency.

Function description：

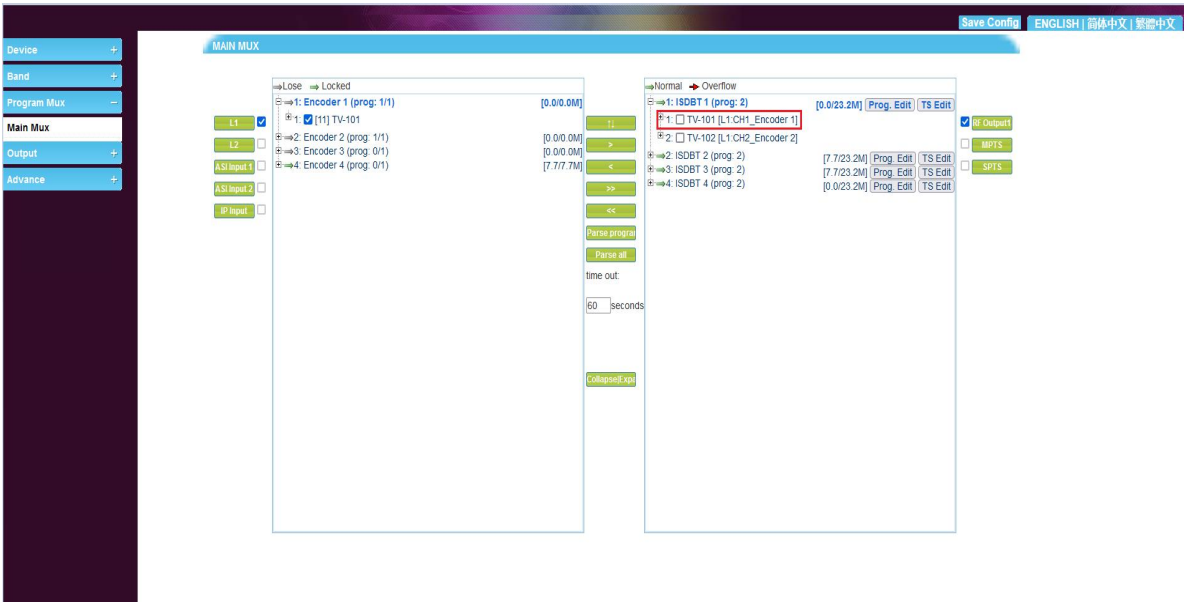
2. ASI input Mux



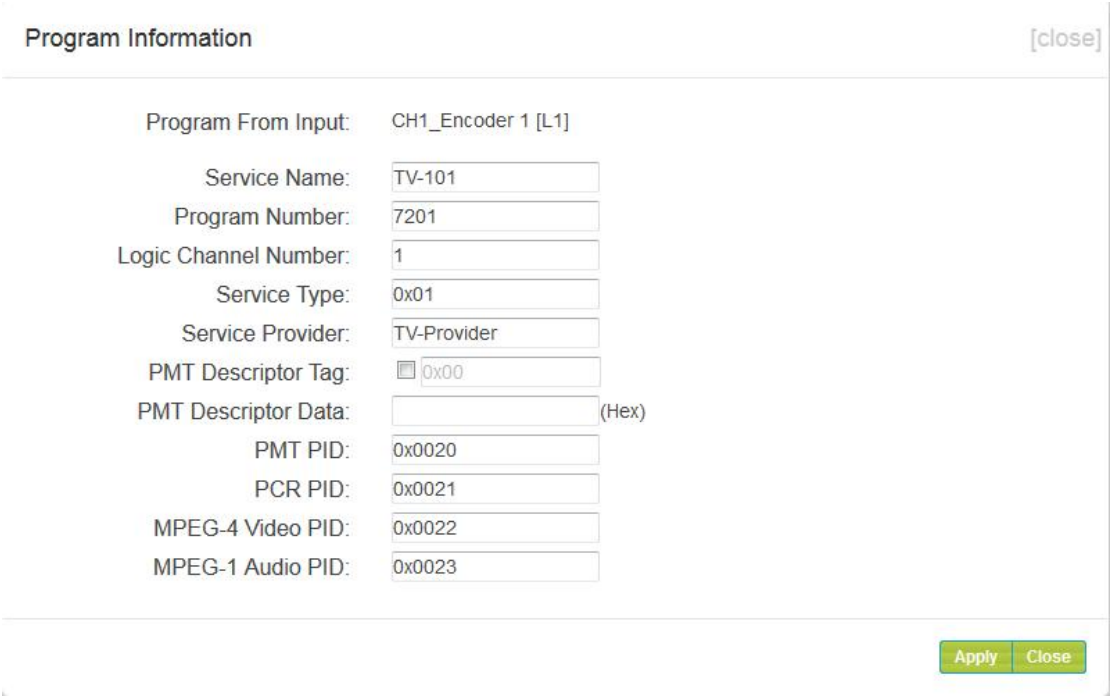
Click “ASI input 1”, choose“1：ASI(prog：0)”then click decoding the program and then to choose program to the related frequencies.

3. How to Modify the program data setting

Click the frequency and choose the program you want to edit,as follows:

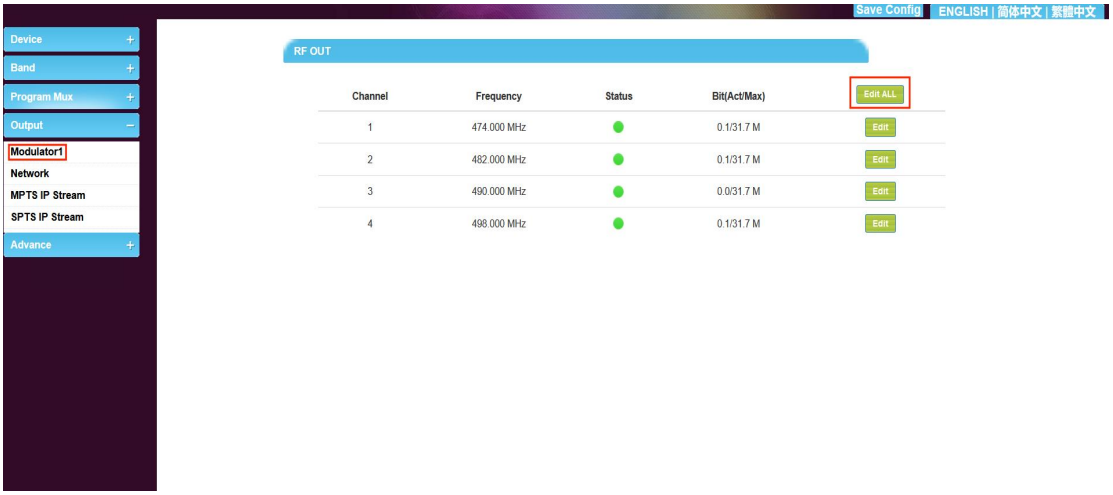


You will get the information of the programs:

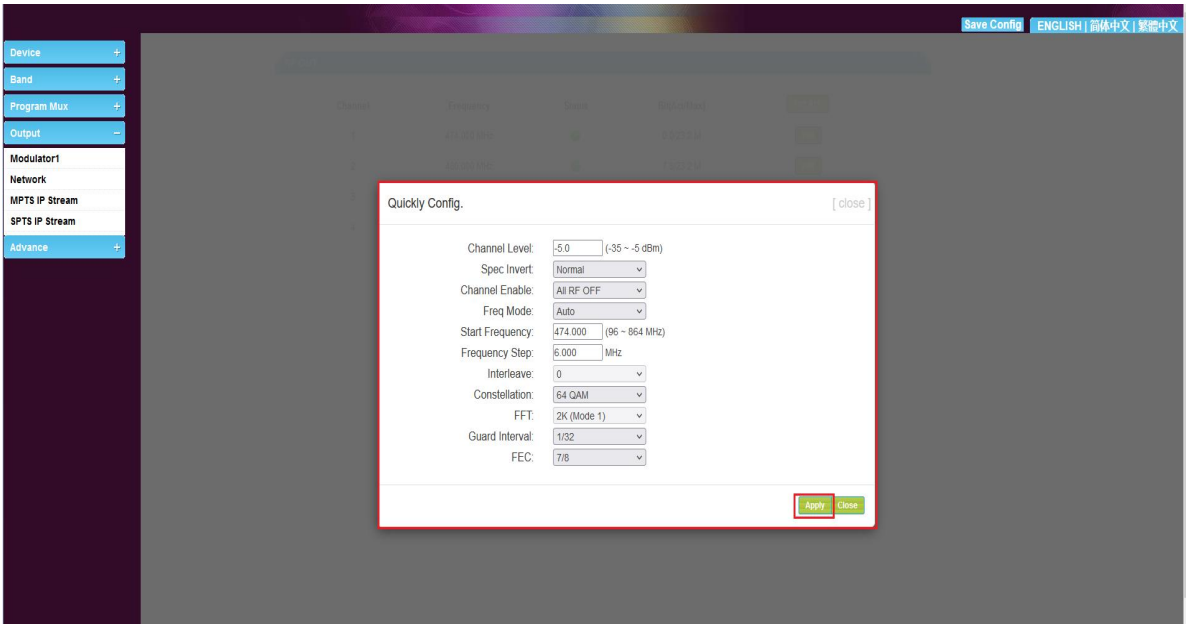


Click “Apply” to save the settings .

6.3.2.3 RF OUT setting



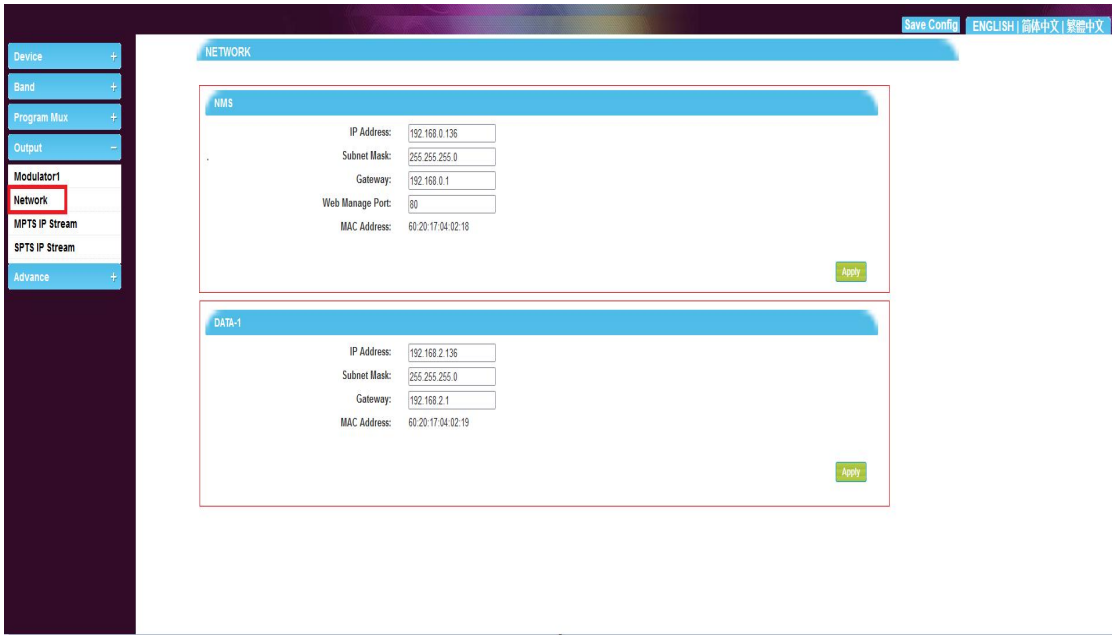
Click Edit all to setting all dates for each frequency.



Click “Apply” to save the settings .

6.3.2.4 Network settings

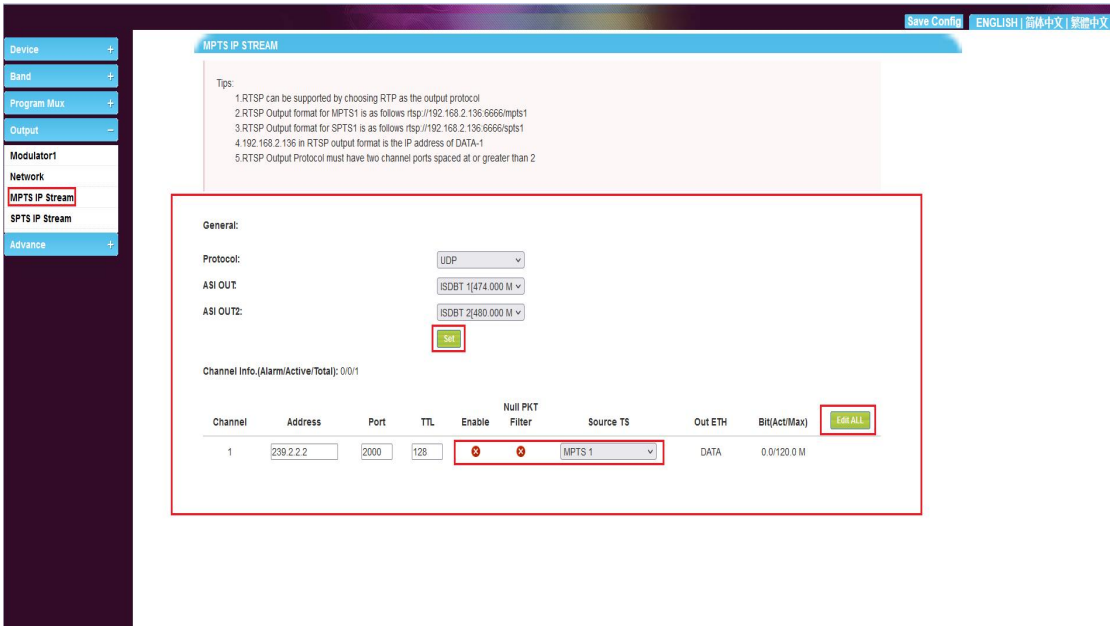
To set or change the IP address of the equipment:



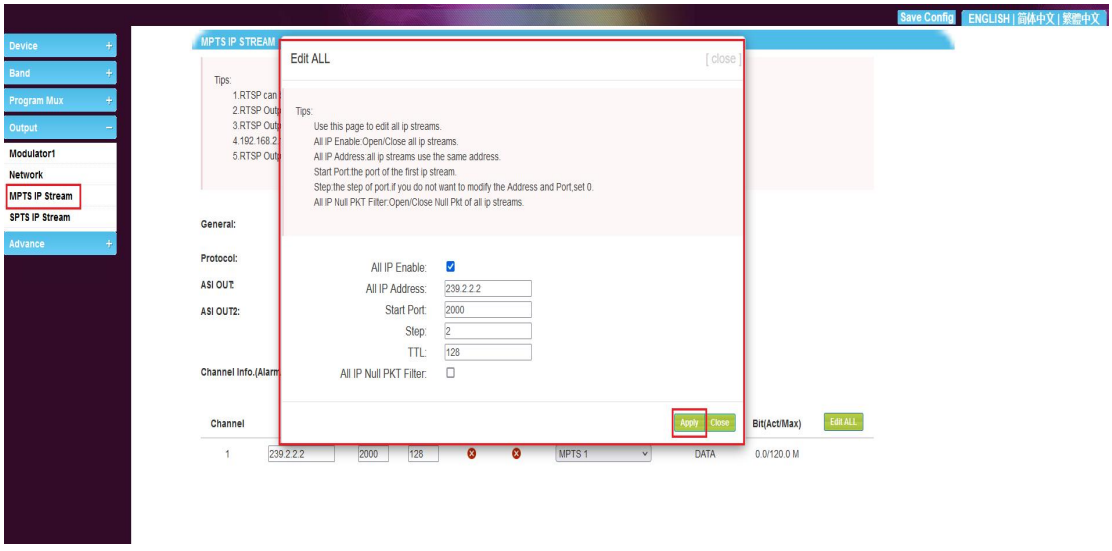
Click “Apply”to save the settings.

6.3.2.5 MPTS IP stream settings

MPTS IP setting as follows :



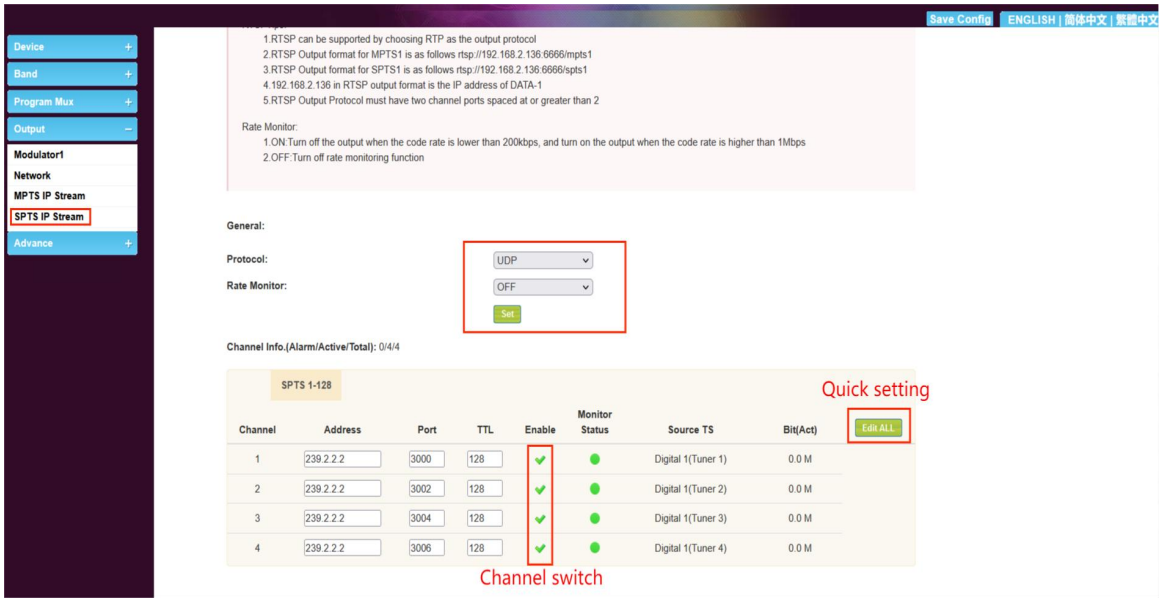
Click 



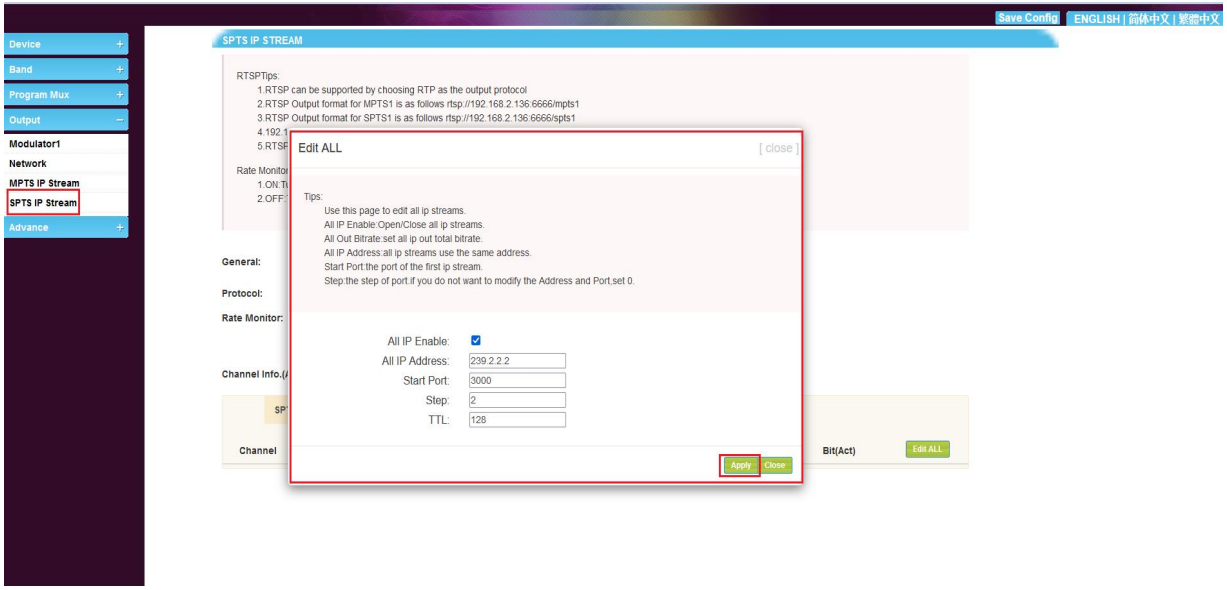
Click “Apply”to save the settings.

6.3.2.6 SPTS IP stream setting

SPTS IP setting as follows :



Click “Edit All”



Click Apply save to save the settings.

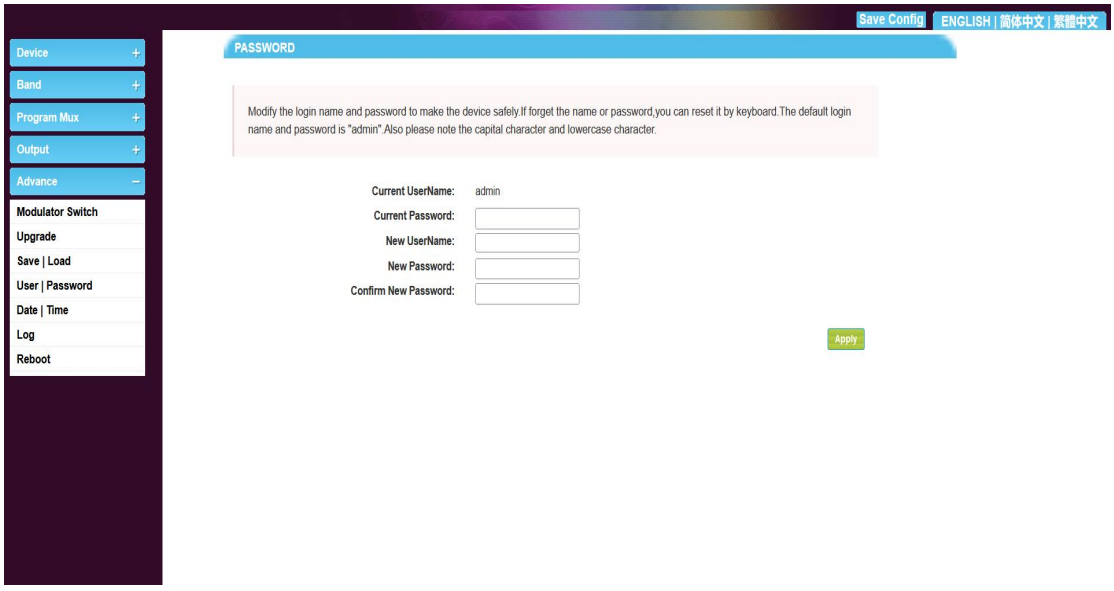
6.3.3 Advanced settings

This is for advanced settings to the encoder modulator, including the modulation format switching, software updating, uploading .

6.3.3.1 Upgrade

We generally suggest users do not do modulation format switching without our online supporting. If you need to switch the modulation into other format, or upgrade the software, please contact us to make online supporting.

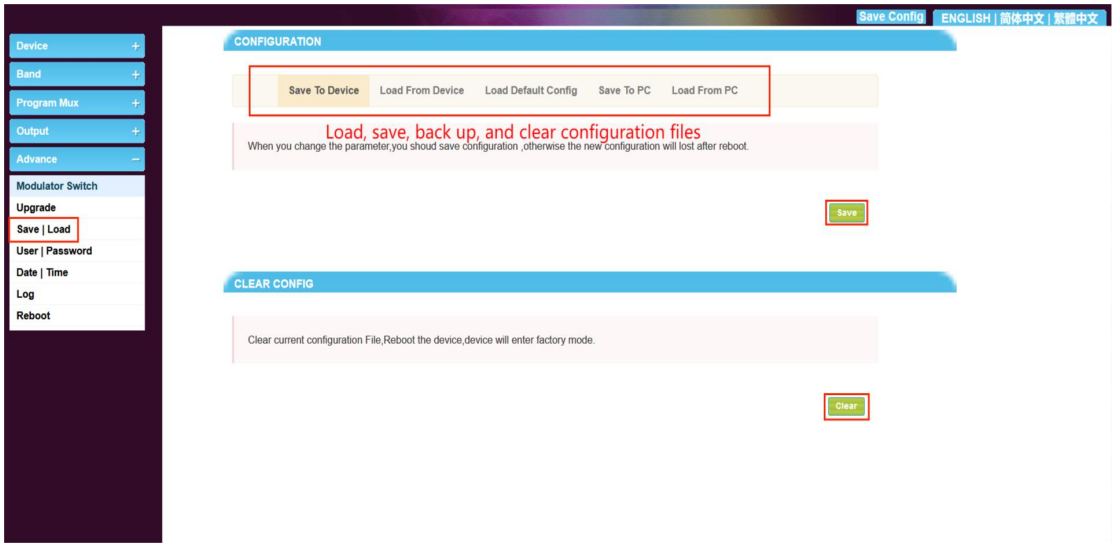
6.3.3.2 User/password settings



Default username and password：admin

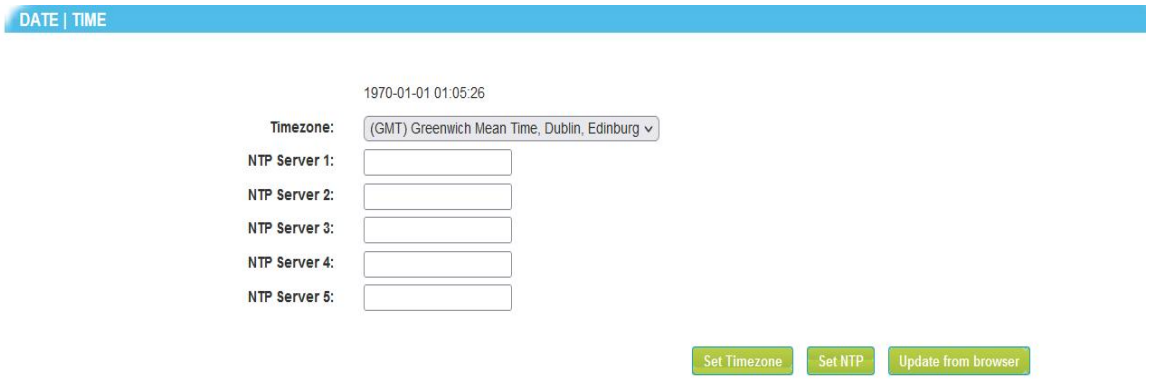
If you have changed your account and password, keep them securely.

6.3.3.3 Save / load the settings



1、Save to device: After change any of the data or settings, please click “save to device”to match the settings between the software and the device.
2、Load from device: This is to download the recent settings from the device. Please save the settings when finish the downloading.
3、Load the default config: This is to reset the device to the factory settings.
4、Save to PC: This is to save the current configuration to local files in PC. Users are suggested saving the settings before upgrading the device.
5、Load from PC: Users can replace the current settings with the backup settings from local files (PC).Note: Do not turn off the computer on the process of downloading, otherwise the device will not work.
6、Clear configuration: Click “Clear”to delete all the current setting to reset the data settings.

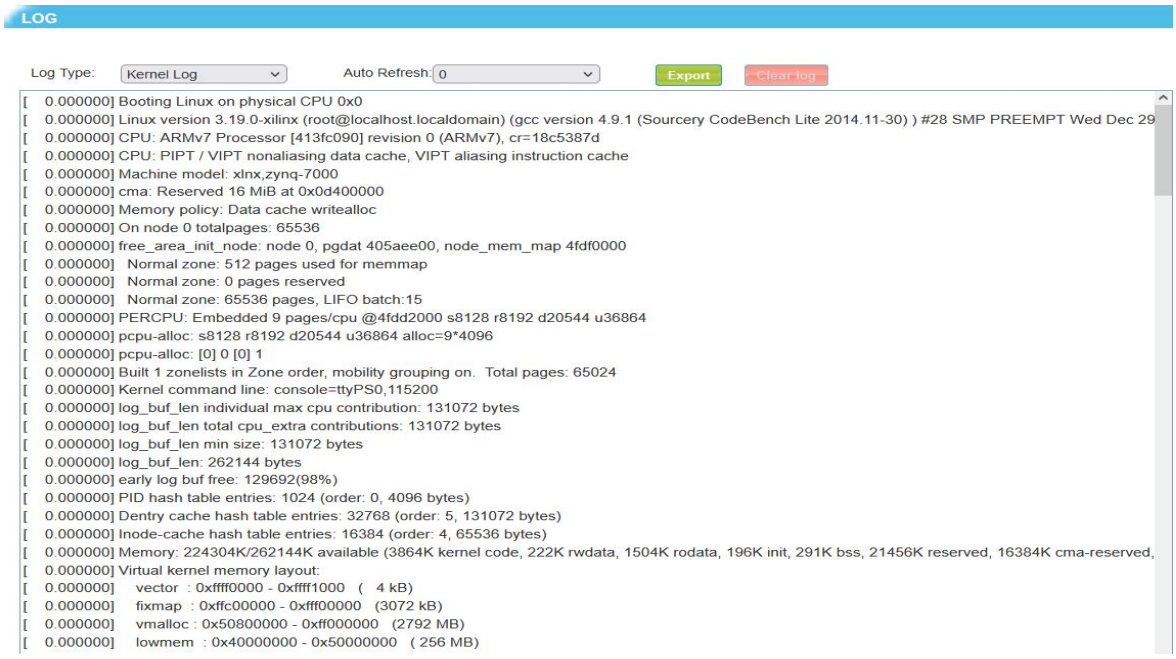
6.3.3.4 Date/ Time



To set the date and time.

6.3.3.5 Blog

The configuration information of the equipment.



When the device is abnormal, the device work log can provide some useful information.

6.3.4 Language exchange

Click “English” to change the web interface and LCD display into English version.

Click "Save Config" to quickly save your Settings.Please save the changes after all operations.

7 Cautions

Please follow the following tips to set running the equipment to make sure safety and performance.

7.1 Precaution

- Place the equipment in an suitable place with a temperature range of 0-45℃
- Make sure that heat sink on the rear panel is well ventilated, and all jacks smooth opening;
- Check the power voltage, and all power connections;
- Check the RF output level to make sure it is in the working range;
- Recheck all connections;
- Don't switch OFF/ON the equipment frequently （each

switch on and off should be Min. 10 seconds later）

7.2 When do you need to unplug the power

- The power cord or socket is damaged.
- If any liquid get into the equipment.
- Short circuit caused by anything getting into the chassis.
- Rainfall or soaking to the equipment.
- Any damage to the equipment.
- Long idleness of the equipment.
- Equipment does not work after preset recovery.
- Equipment maintenance

Warranty description:

1. The product warranty period is one year, calculated from the time of shipment from the factory;

2. The warranty covers the problems that occur under normal use of the product.

The warranty does not apply to the following conditions:

1) Beyond the warranty period;

2) Damage caused by transportation, loading and unloading during return or repair;

3) Disassemble, modify or maintain the equipment without authorization;

4) Equipment failure or damage caused by accidental factors or humans (such as extrusion scratches, bump deformation, liquid intake, foreign matter falling into, network virus, incorrect insertion and removal, etc.);

5) Malfunctions or damages caused by equipment not being installed in the correct working conditions or environment (such as: bad working environment, high temperature, low temperature, high salt and high humidity, low voltage, high voltage or unstable power supply, not correctly grounded , abnormal physical pressure, corrosion, etc.);

6) Equipment failure or damage caused by not following the installation, use, maintenance, and storage requirements of the user manual;

7) The equipment nameplate, QR code does not match the product model, or the factory label cannot be recognized or is altered;

8) Failure or damage caused by the use of other products or parts other than our company;

9) Failure or damage caused by force majeure factors (including natural disasters such as flood, fire, lightning, earthquake, etc., and social events such as war, unrest, etc.);

10) If the equipment fails or is damaged due to the above reasons, we will charge the corresponding fee after repair.