EQM3264

Edge QAM Modulator



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Directory

Chapter 1 Product Overview.....1

1.1 Tech Specifications.....1

1.2 Front & Rear Panel.....2

Chapter 2 Installation Guide.....3

2.1 General Precautions.....3

2.2 Power precautions.....3

2.3 Grounding Requirement.....3

2.4 Power cord connection.....3

Chapter 3 Web GUI Management.....4

3.1 Login.....4

3.2 Setup.....4

3.2.1 Monitor.....5

3.2.2 Parameters.....6-11

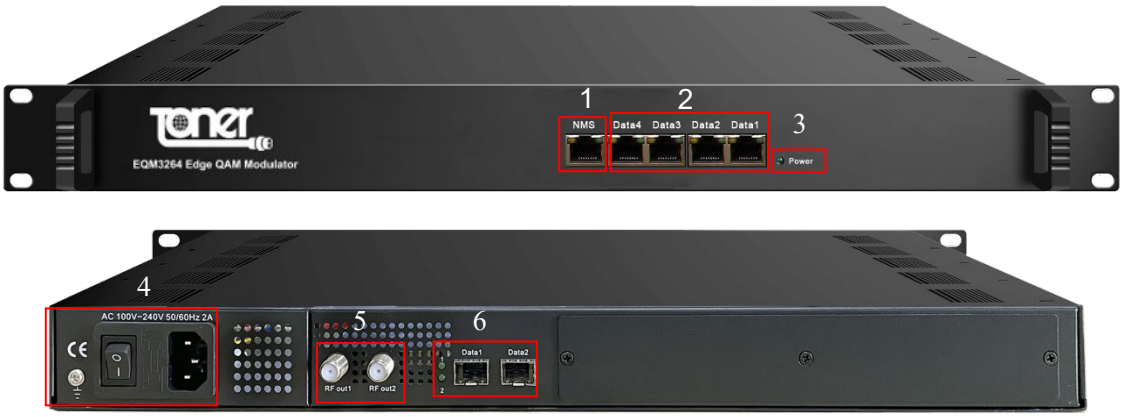
3.2.3 System.....12-14

1.1 Tech Specifications

Input	Input	Max 512 IP inputs from 6*100/1000M Ethernet Port (4*RJ45, 2*SFP)	
	Transport Protocol	TS over UDP/RTP, unicast and multicast, IGMP V2/V3	
	Transmission Rate	Max 840Mbps for each GE input	
Mux	Input	512 IP streams	
	Output Channel	32 or 64	
	Max PIDs	256 per programs	
	Functions	PID remapping(auto/manually optional)	
		PCR accurate adjusting	
		PSI/SI table automatically generating	
Scrambling Parameters	Max simulscrypt CA	6 CAS protocols	
	Scramble Standard	ETR289, ETSI 101 197, ETSI 103 197	
	Connection	Local/remote connection	
Modulation Parameters	Modulation Standard	EN300 429/ITU-T J.83A/B/C	
	Constellation	J.83A	Constellation :16/32/64/128/256QAM
			Bandwidth :8MHz
		J.83B/C	Constellation :64/256QAM
			Bandwidth :6MHz
	QAM Channel	32 adjacent channels, max 384Mbps bandwidth per RF output (optional 64 QAM channels)	
	Symbol Rate	5.0~7.0Msps, 1ksps stepping. 5057Ksps (J.83B, 64QAM) ; 5361Ksps (J.83B, 256QAM)	
	Constellation	16, 32, 64 , 128, 256QAM	
	FEC	RS (204, 188)	
RF Output	Interface	2 F female outputs	
	RF Range	50~960MHz, 1kHz increments	
	Output Level	27~57dBmV (87~117dbμV)	
	MER	≥ 40dB	
TS output	32 IP output over UDP/RTP/RTSP, unicast/multicast, 4*100/1000M Ethernet Ports (each port for 16 IP outputs)		
System	Web-based Network management		
General	Dimensions	19"x16.5"x1.75" (482mm×440mm×44.5mm) WxLxH	
	Weight	11 lbs (5 kgs)	
	Temperature	32~113°F (0~45°C)	
	Power Requirements	AC 100V±10%, 50/60Hz or AC 220V±10%, 50/60Hz	

1.2 Front & Rear Panel

Panel Illustration



1	Data Input Ports: network management system port (default IP address: 192.138.0.136)
2	Port 1-4 for data input/output (RJ45)
3	Power indicator
4	Grounding, Power Switch and Socket
5	RF out ports: RF-1 for carriers 1-32, RF-2 for carriers 33-34
6	SFP Port 1-2 for data input/output

2 Installation Guide

2.1 General Precautions

- ✓ Must be operated and maintained free of dust or a dirty environment.
- ✓ Properly mount the EQM3264 using 4 rack screws.

2.2 Power Precautions

- ✓ Avoid operating in a wet or humid environment.
- ✓ Make sure the power switch is off before you plug in the EQM3264

2.3 Grounding Requirements

- ✓ Use a copper ground wire from the ground screw on the rear to a proper ground.

2.4 Power Cord Connection

The power switch/socket is located on the left side of rear panel. User can plug one end of the power cord to the socket and insert the other end to AC power (117 or 230 VAC).

☞**Caution:** Before connecting power cord to EQM3264 IP QAM Processor, user should set the power switch to “OFF”.

3 Web GUI Management

This device supports remote management by web-based GUI.

3.1 Login

The factory default IP address of this device is 192.168.0.136. Users can connect GUI port of the device and log in its Web GUI through this IP address.

Connect the computer and the device with a ethernet cable. Launch the web browser and type the GUI IP address 192.168.0.136 and press Enter.

It will display the Login interface as Figure-1. Type the Username and Password (Both the default Username and Password are "admin". And then click "OK" to start setting up the EQM3264.

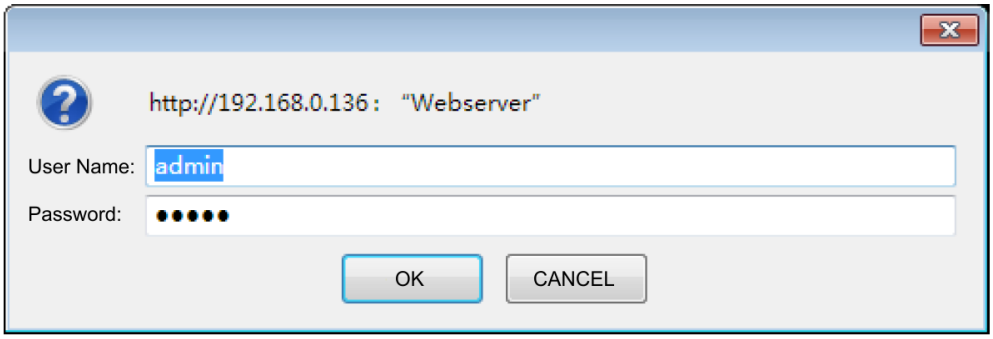


Figure-1

3.2 Setup

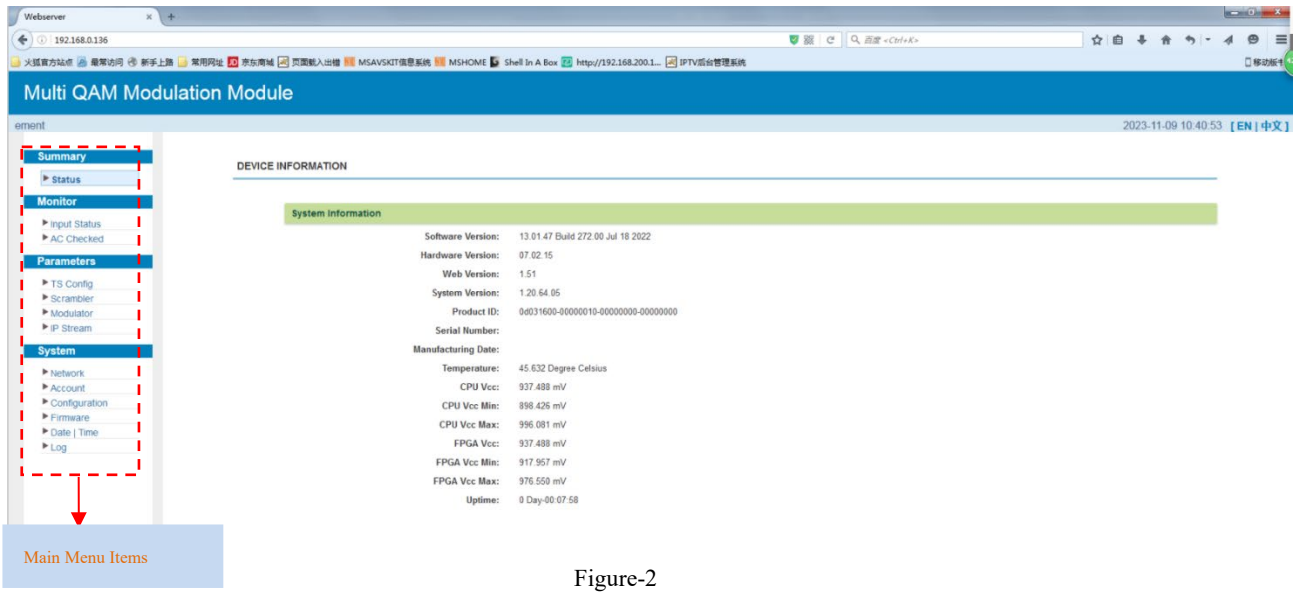


Figure-2

3.2.1 Monitor

Monitor → Input Status:

Clicking “ Input Status”, it will display the interface as Figure-3 where users can check the status of IP input streams from different interfaces.

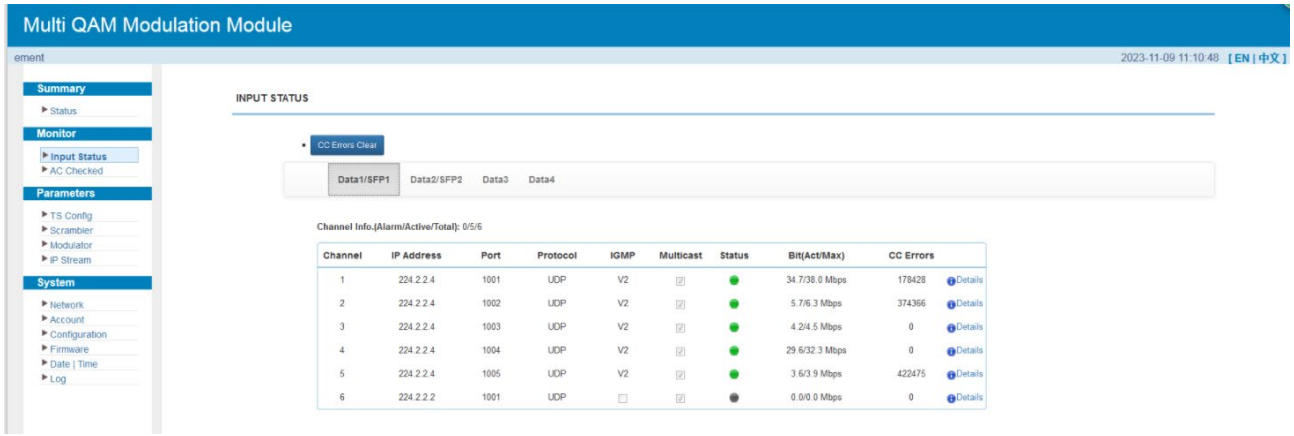


Figure-3

Monitor → AC Checked:

Clicking “AC Checked”, it will display the interface as Figure-4 where users can check the status of program scrambling.

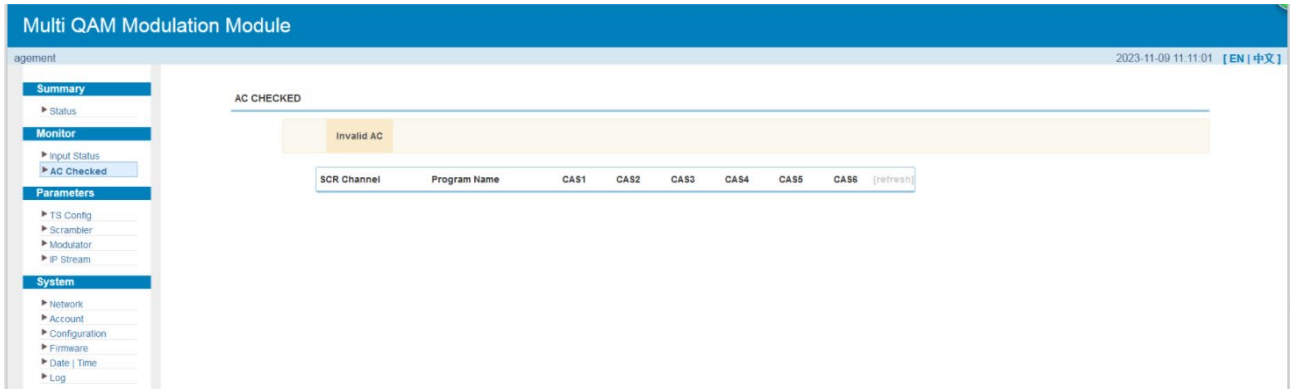


Figure-4

3.2.2 Parameters

Parameters→ TS Config

Click “TS Config”, it displays a page as Figure-5 where users can configure the input IP streams and multiplex selected programs out.

Stream Select:

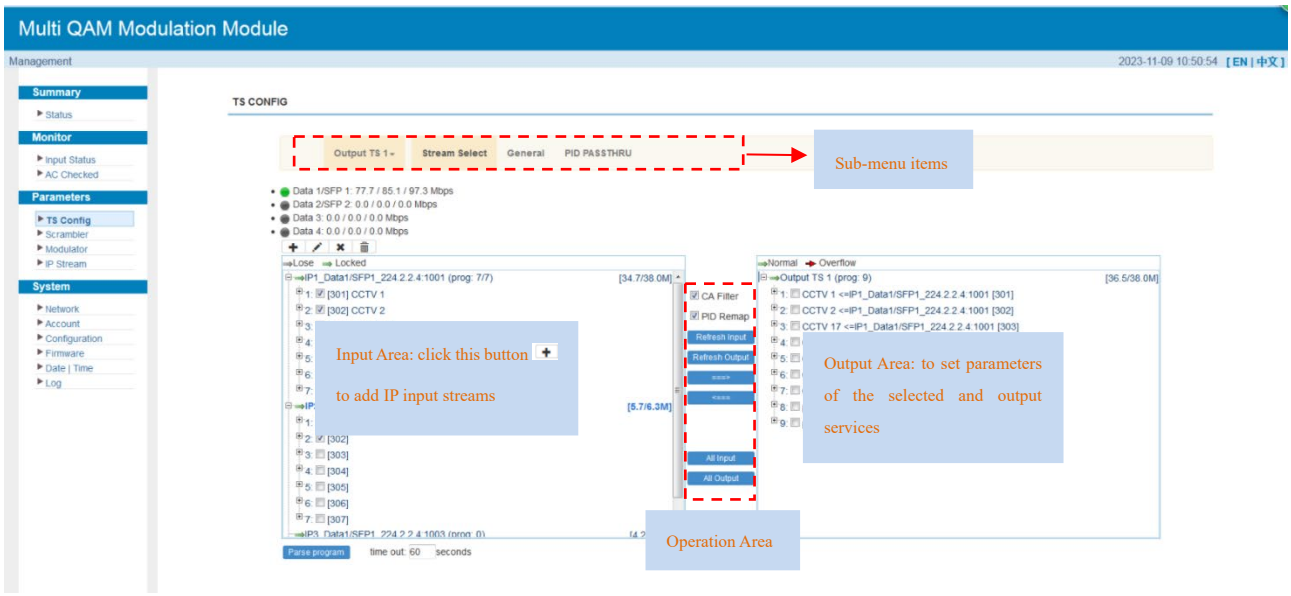


Figure-5

• Data 1/SFP 1: 77.7 / 85.1 / 97.3 Mbps TS data/IP data/Total bitrate data (no more than 940Mbps for total bitrate)

Click “+” to add an IP input stream, parse it, and it will display program information for you to choose the wanted programs as the muxed outputs. (Figure-6)

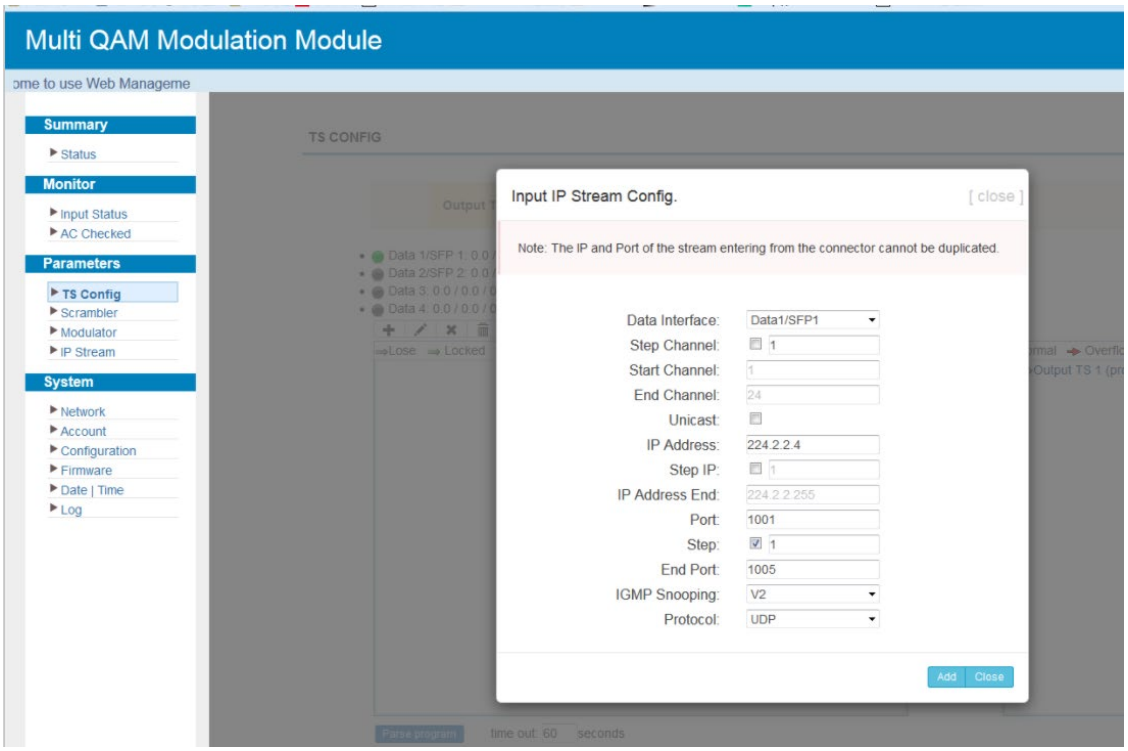


Figure-6

Configure ‘Input Area’ and ‘Output Area’ with buttons in ‘Operation Area’. Instructions are as below:

: To add IP input streams coming from SFP/SFP+/DATA ports

: To edit the chosen IP input stream, such as address and port etc

: To delete the chosen IP input stream

: To delete all IP input streams

Lose Locked : To check input IP locked or not, green means current IP locked

Normal Overflow : To check current TS overflow or not, red color means current TS overflow, and needing reduce program number

CA Filter ： Enable/disable the CA Filter function. Clicking the box, user can filter the input CA info to avoid disturbing the device scrambling function.

PID Remap : To enable/disable the PID remapping

Refresh Input To refresh the input program information

Refresh Output To refresh the output program information

===> Select one or more programs in the input area firstly and then click this button to transfer the selected programs to the output area.

<=== Similarly, user can cancel the multiplexed programs from the output area.

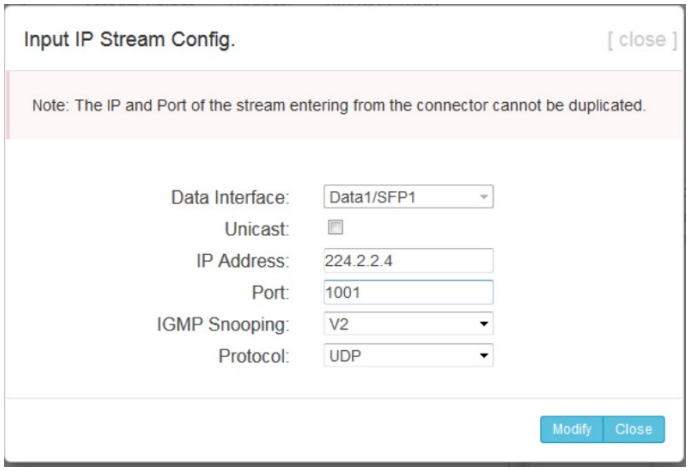
All Input To select all the input programs in a selected IP input stream

All Output To select all the output programs

Parse program To parse program information in the selected IP input stream

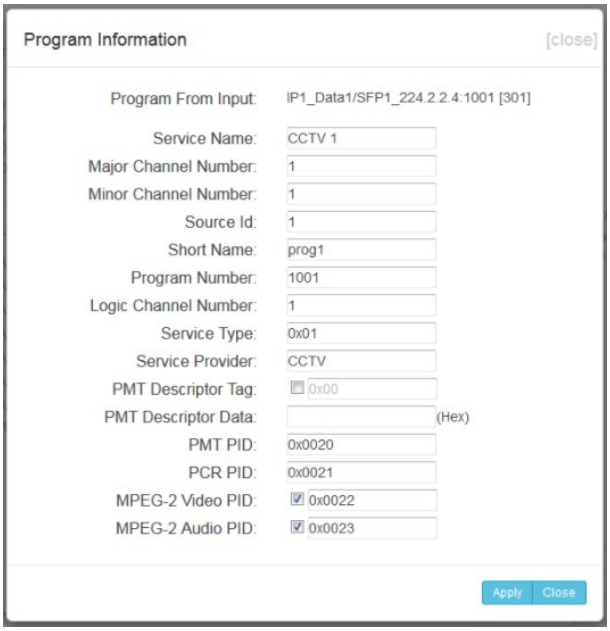
time out: 60 seconds time limitation of parsing the chosen IP input stream

Input IP Configuration:



Check the the program in the input area and click Edit button , you will get a pop-up window where to modify the chosen IP input stream, such as interface and address etc as needed.

Program Info Modify:



By clicking the program name in the output area, you will get a pop-up window where program name, LCN, and PID numbers etc can be modified as needed. If users want to filter video or audio PID from the output, they can uncheck the boxes before their PID values.

General:

Click “General” to display the interface as Figure-7 where you can set parameters for each output channel.

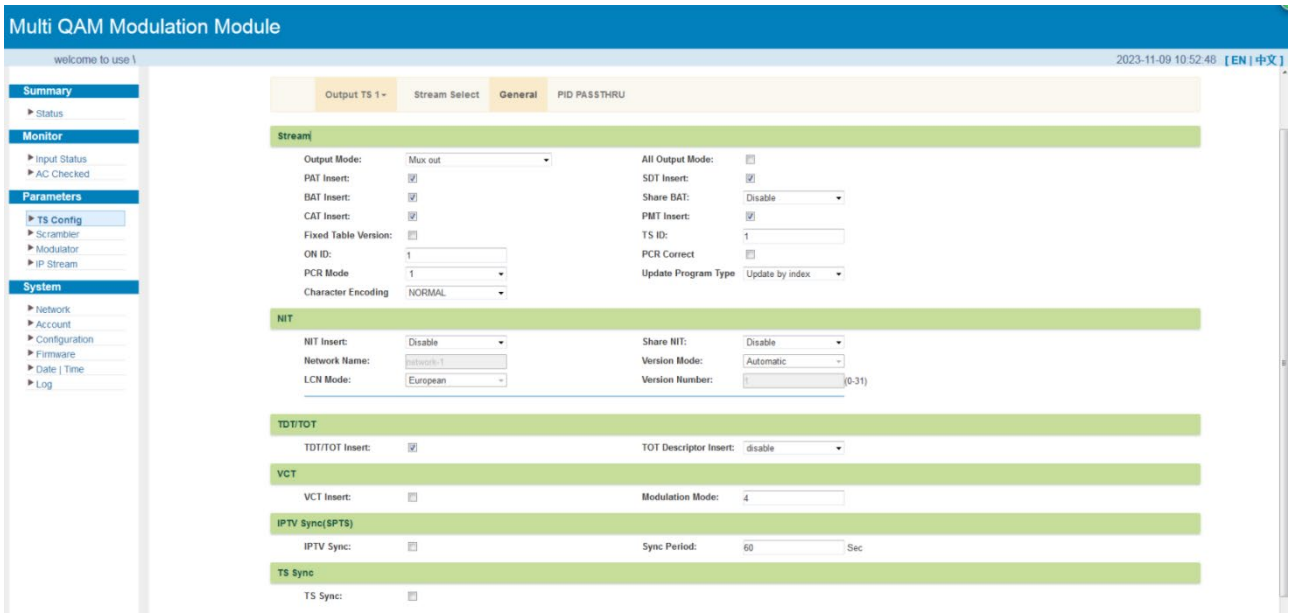


Figure-7

PID Passthru:

Clicking “PID passthru”, it will display a page as Figure-8 where you can pass through PIDs. Clicking the “+” symbol, typing current input IP channel number, typing current IP source PID values and wanted output PID values, and clicking “set” to apply the settings.



Figure-8

Parameters→Scrambler:

Clicking “Scrambler”, it will display a page where you can scramble the selected programs.

(Figure-9)

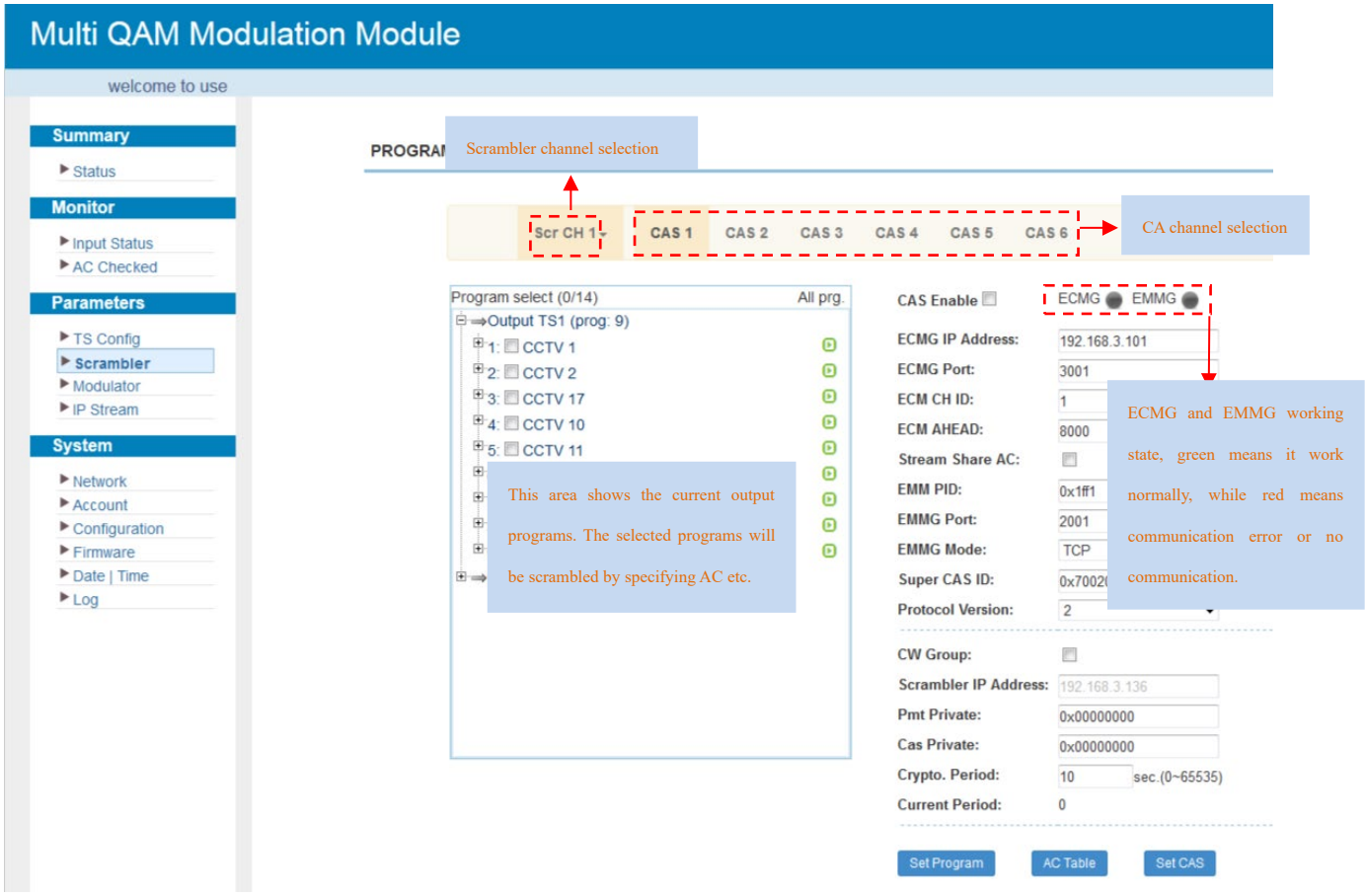


Figure-9

Parameters→Modulator:

Clicking “Modulator”, it will display the interface as Figure-10 where to set RF output parameters.

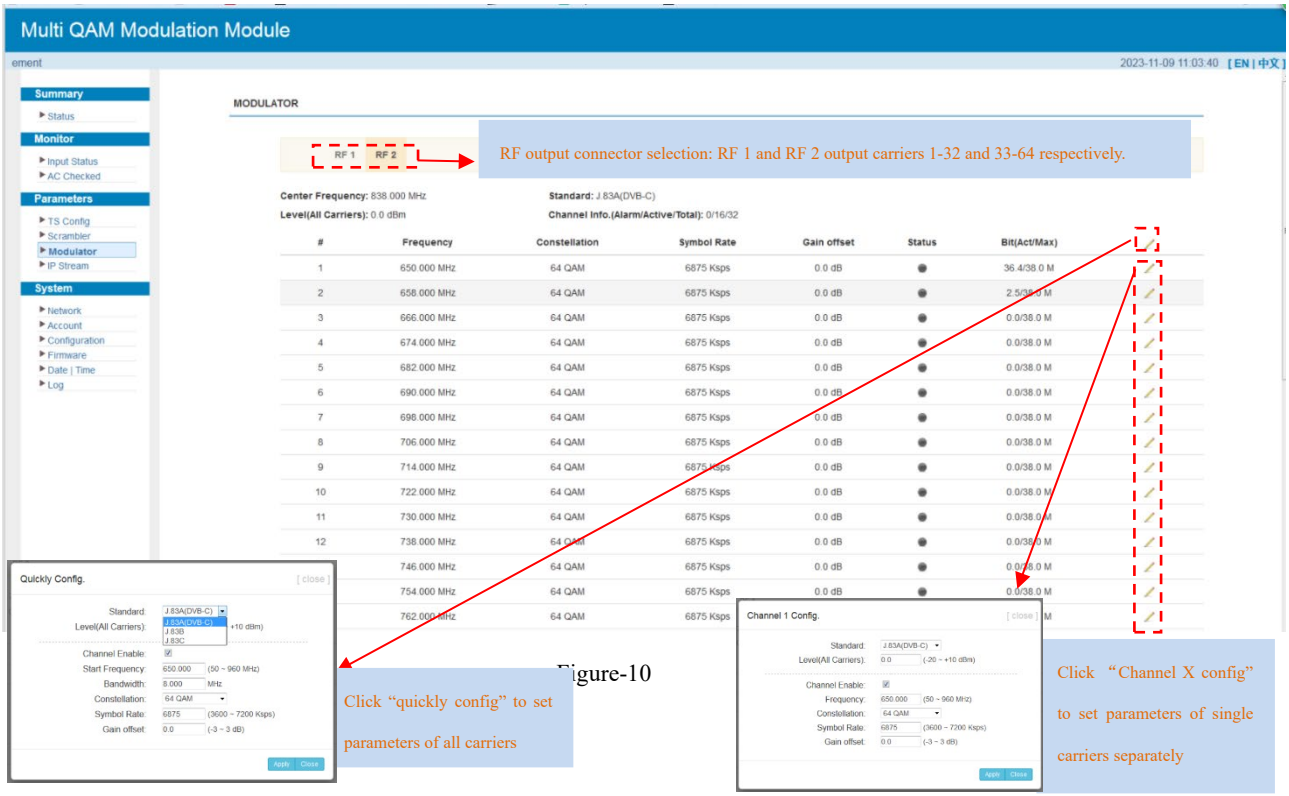


Figure-10

Parameters→IP Stream:

Click “IP Stream”, it displays a page as Figure-11 where to set IP out settings.

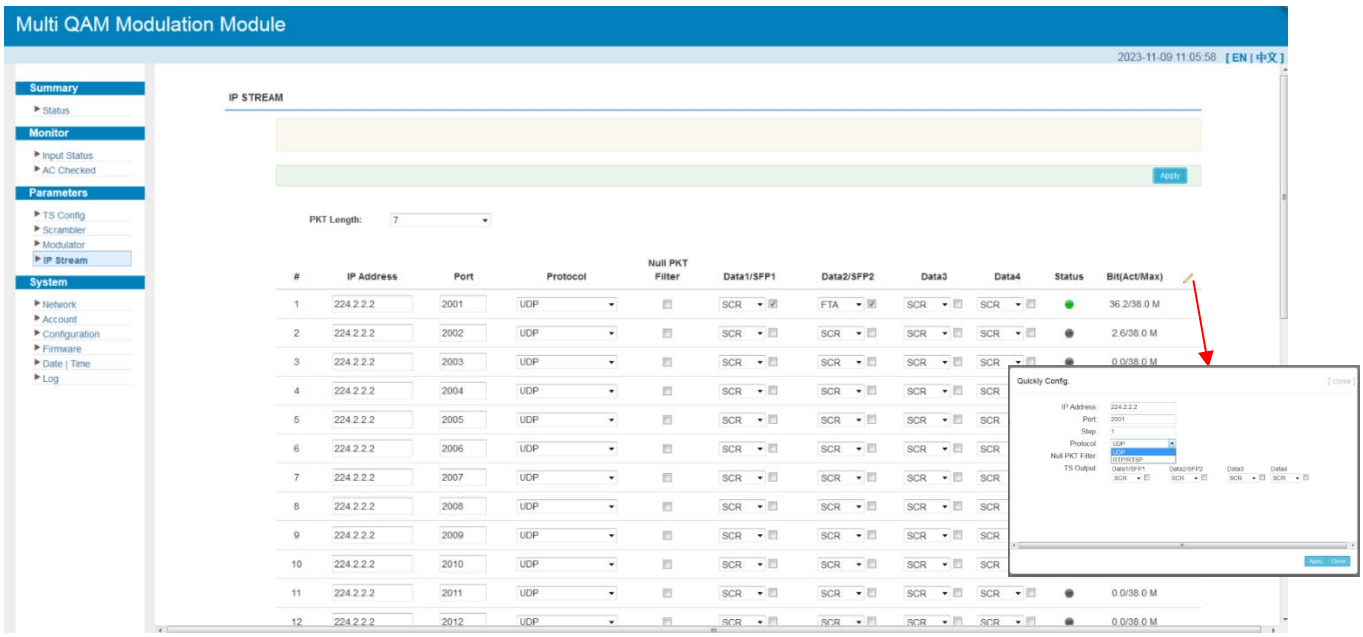


Figure-11

3.2.3 System

System → Network:

Clicking “Network”, it will display the interface as Figure-12

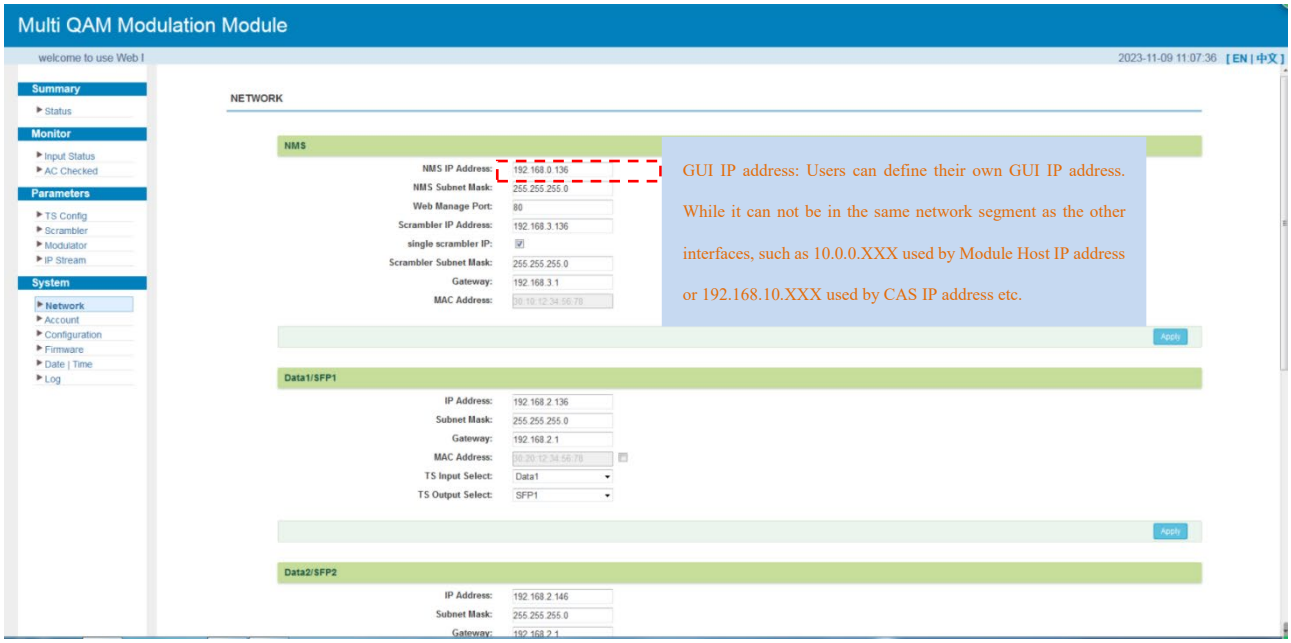


Figure-12

System → Account

Clicking “Account”, it will display the screen as Figure-13 where to set the login account and password for the web GUI.

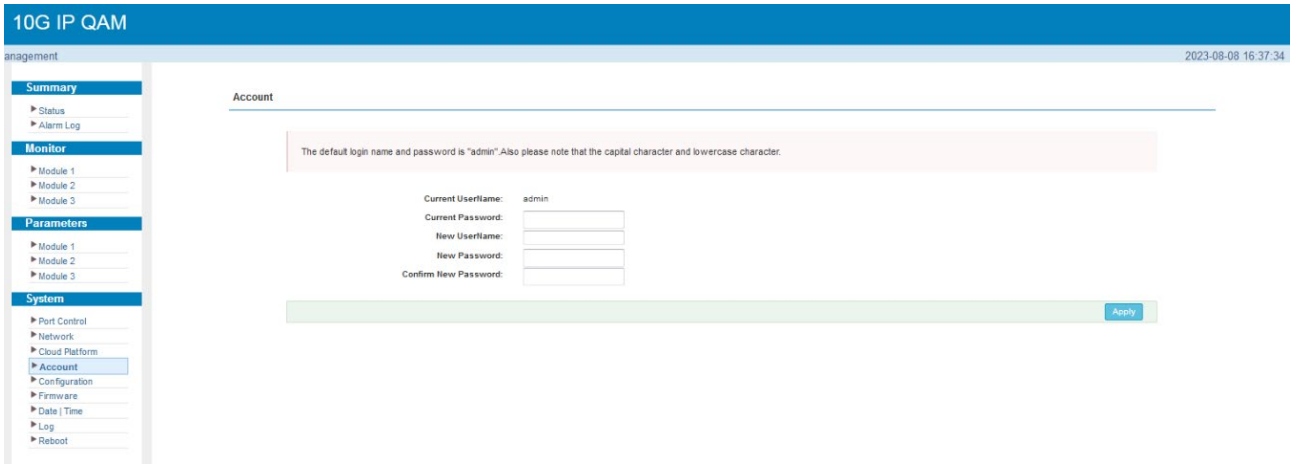


Figure-13

System → Configuration:

Clicking “Configuration”, it will display a page as Figure-14 where to save/restore/factory set/backup/load the configurations in the device.

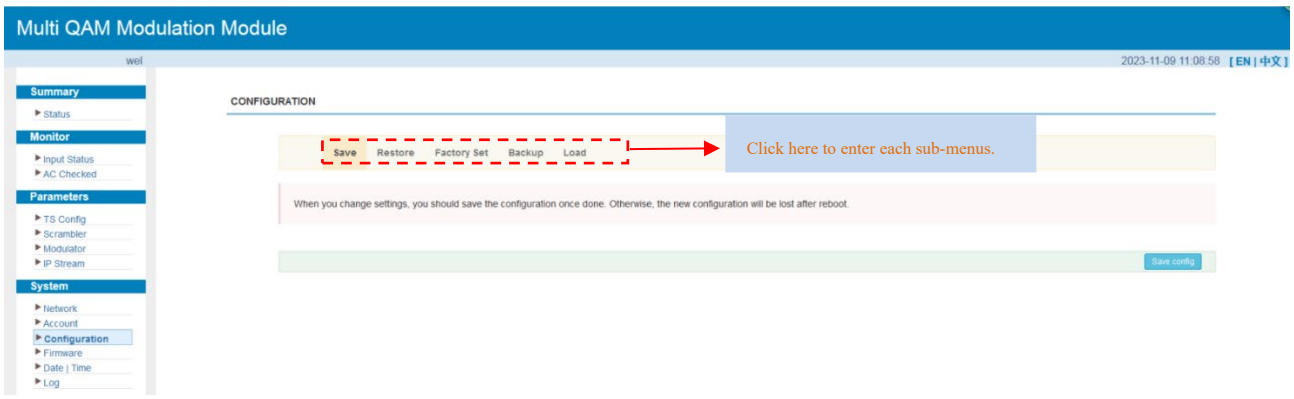


Figure-14

System → Firmware:

Clicking “Firmware”, it will display a page as Figure-15 where to update OS/CPU/FPGA of the device.

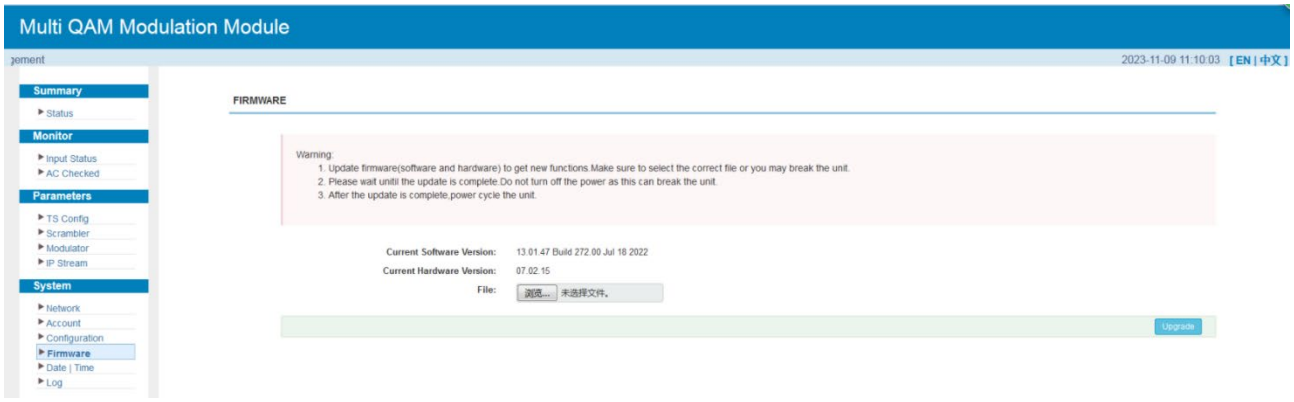


Figure-15

System → Date/Time:

Clicking “Date/Time”, it will display the interface as Figure-16 where you can set date/time for this device.

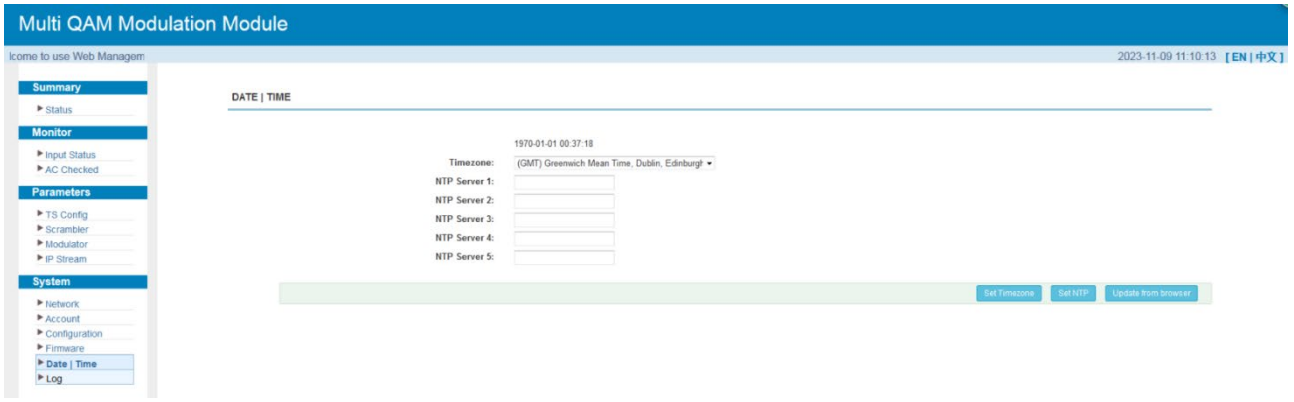


Figure-16

System → Log:

Clicking “Log”, it will display the screen as Figure-17 where to check the “Log”.

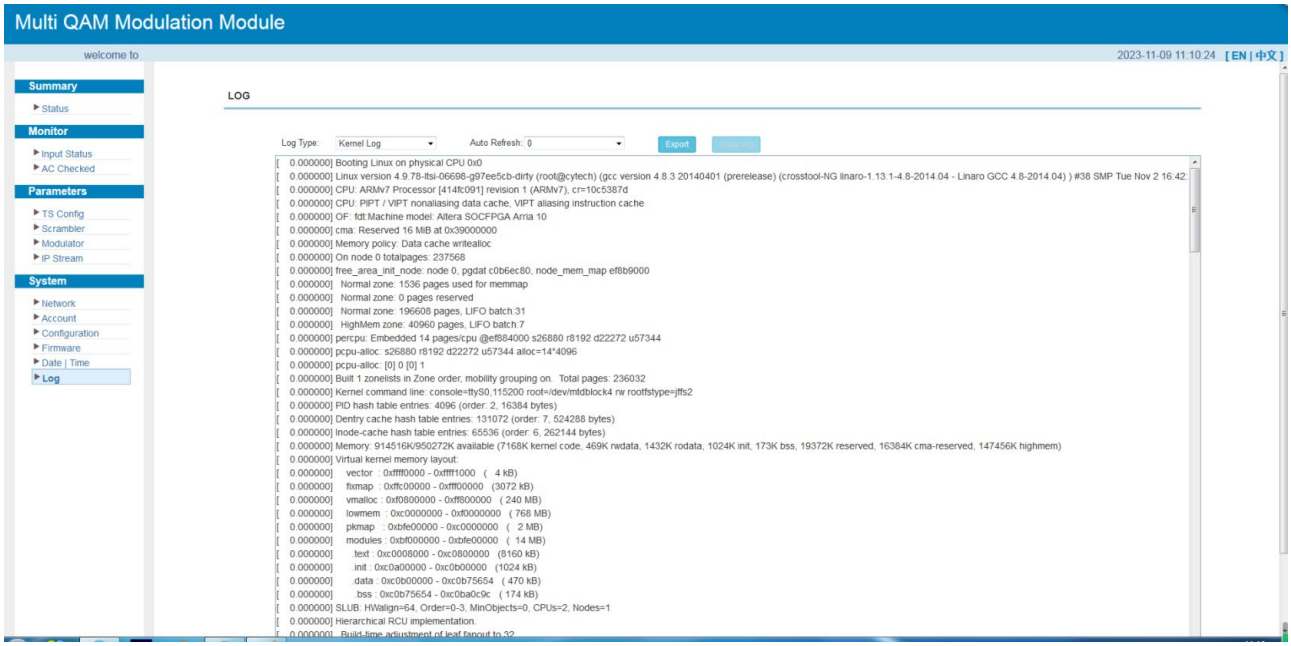


Figure-17

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