

HPR4624M

**Tuner (PCMCIA card)
to Modulator**

User's Manual

V1.1



HPR4624M

Product Overview

HPR4624M is a professional high integration device which includes tuner demodulation, multiplexing, and modulation. It supports 2-12 tuner input(**support different types of tuner (DVB-S2、 DVB-C、 DVB-T、 ATSC、 DTMBT 、 ISDBT, etc.) input**), Support PCMCIA card descrambling. Supports 4/8/16 carrier outputs (ATSC, ISDBT, DTMBT, DVB-C/-T), 1000M IP output, MPTS and SPTS output. In conclusion, its high integrated and cost-effective design makes the device widely used in varieties of digital distribution systems such as cable TV digital head-end, digital TV broadcasting etc.

Key Features

- Support 2-12 channels PCMCIA card descrambling, single module provides 2 channels (2 Tuner+2 PCMCIA slots), a maximum of 6 modules support a total of 12 PCMCIA card channels.
the tuner supports (**DVB-S2/DVB-C/DVB-T/ATSC/ISDBT/DTMBT**)
- Supports 4/8/16 channel modulation output (ATSC, ISDBT, DTMBT, DVB-C/T) options
- 1000M IP(MPTS and SPTS) output over UDP and RTP protocol
- 2 ASI inputs and 2 ASI Independent output
- Support “Null PKT Filter” function
- Support PID Remapping/ PCR accurate adjusting,PID pass
- LCD、 key function
- Control via web management, and easy updates via web

Technical Specification

Input	Tuner(2-12 tuner) and the tuner supports (DVB-S2/DVB-C/DVB-T/ATSC/ISDBT/DMBT)		
	2 ASI input		
	128 IP input		
Output	RF output 4/8/16 frequencies (DVB-C/DVB-T/ATSC/ISDBT/DMBT)		
	2 ASI output		
	IP output (SPTS and MPTS) over UDP and RTP protocol		
Modulation Mode	DTMBT	Standard	DTMB GB20600-2006
		Constellation	4QAM、16QAM、32QAM、64QAM
		MER	$\geq 40\text{dB}$
		RF frequency	50~900MHz, 1kHz step
		RF output level	-35dBm~-5dBm, 0.1dB step
	DVB-T	Standard	EN300744
		Bandwidth	6M, 7M, 8M
		Constellation	DQPSK, 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	$\geq 40\text{ dB}$
		RF frequency	50~960MHz, 1KHz step
		RF output level	-35~-5dBm, 0.1db step
	QAM	Standard	EN300 429/ITU-T J.83A/B/C
		MER	$\geq 40\text{db}$
		RF frequency	50~960MHz, 1KHz step
		RF output level	-35~-5dBm , 0.1dBm step
		SR	5.0Msps~7.0Msps, 1ksps step
		Constellation	16/32/64/128/256QAM
	ATSC	Standard	ATSC A/53
		MER	$\geq 40\text{dB}$
		RF frequency	30~960MHz, 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,7M,8M
	System	Web/NMS	
中文/English			

Miscellaneous	Dimensions	482mm×410mm×45mm
	Weight	4-9kg
	Temperature	0~45°C(Operation); -20~80°C(Storage)
	Voltage range	AC100~240V, 50/60Hz
	Power consumption	<90W

Model Selection

Model	Input	Output
HPR4624M-4	Supports a maximum of 6 dual-channel PCMCIA modules with 12 channels of Tuner input; 128 IP input; 2 ASI input.	RF output 4 frequencies ; 1 MPTS/128 SPTS output; 2 ASI output.
HPR4624M-8E (Economy)	Supports a maximum of 6 dual-channel PCMCIA modules with 12 channels of Tuner input; 128 IP input	RF output 8 frequencies ; 1 MPTS output
HPR4624M-8 (Standard)	Supports a maximum of 6 dual-channel PCMCIA modules with 12 channels of Tuner input; 128 IP input; 2 ASI input.	RF output 8 frequencies ; 8 MPTS/512 SPTS output; 2 ASI output.
HPR4624M-16	Supports a maximum of 6 dual-channel PCMCIA modules with 12 channels of Tuner input; 128 IP input; 2 ASI input.	RF output 16 frequencies ; 8 MPTS/512 SPTS output; 2 ASI output

Note: A single module provides 2-channel PCMCIA card descrambling(2 Tuner+2 PCMCIA slots), and supports a maximum of 6 modules with a total of 12 PCMCIA card channels, the number of channels is optional as a multiple of 2.

Front / Rear Panel

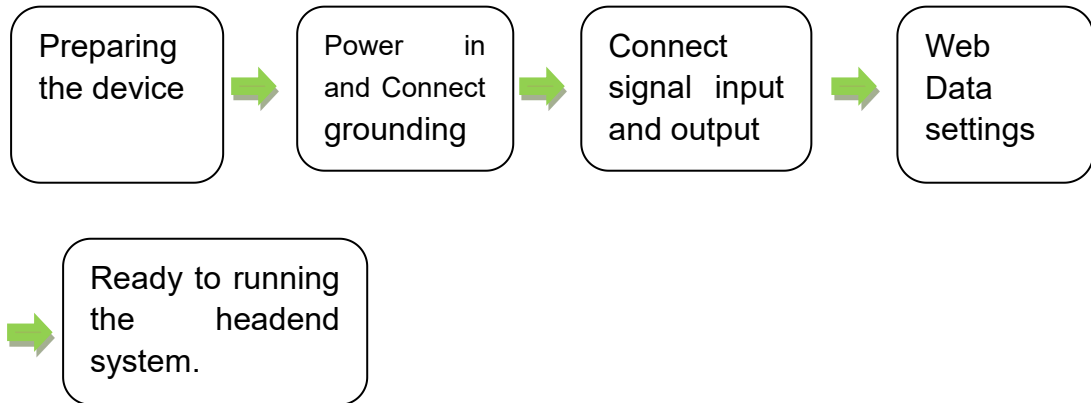


1.	RF out
2.	LCD Display
3.	Buttons and Indicator lights
4.	ASI
5.	NMS、DATA Input/ output
6.	PCMCIA slots
7.	Tuner input
8.	Power



1 Installation

1.1 Installation process:



1.2 Grounding

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

1.2.1 Web setting connection

Connect the equipment from port "DATA 1/2" to computer by network cable.

2 Web Management

2.1 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.

2.2 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.

2.3.1 Basic instructions

After log on, you will get the following interface.

Tune to English version

The screenshot displays the web interface with several key sections highlighted by red boxes and arrows:

- Save Config:** A button in the top right corner.
- Language setting:** A dropdown menu in the top right corner, currently set to 'ENGLISH'.
- Input/output status information:** A table showing ASI IN, MPTS, Prog Counts, Bit(Act/Max), and Lock/Overflow status for various channels.
- Network address information:** A table showing IP, Subnet Mask, Gateway, Mac, and Link Status for NMS and DATA1.
- Software and hardware versions, etc:** A table showing Software, Hardware, OS, Web, SN, and Running Time.

Band	Slot	Name	Input Rate	Output Rate	Input Status	Output Status	ID	Version
L1		TUNER/CI 2CH	0.0 Mbps	0	●	●	0x81	0xtc02
L2		TUNER/CI 2CH	0.0 Mbps	0	●	●	0x81	0xtc02
L3		TUNER/CI 2CH	0.0 Mbps	0	●	●	0x81	0xtc02
H1		TUNER/CI 2CH	0.0 Mbps	0	●	●	0x81	0xtc02
H2		TUNER/CI 2CH	0.0 Mbps	0	●	●	0x81	0xtc02
H3		TUNER/CI 2CH	0.0 Mbps	0	●	●	0x81	0xtc02

ASI IN	Prog Counts	Bit(Act/Max)	Lock
MPTS	Prog Counts	Bit(Act/Max)	Overflow
1	8	0.1/120.0 Mbps	●
2	8	0.1/120.0 Mbps	●
3	8	0.1/120.0 Mbps	●
4	3	0.1/120.0 Mbps	●
5	0	0.0/120.0 Mbps	●
6	0	0.0/120.0 Mbps	●
7	0	0.0/120.0 Mbps	●
8	0	0.0/120.0 Mbps	●

ETH	IP	Subnet Mask	Gateway	Mac	Link Status
NMS	192.168.0.136	255.255.255.0	192.168.0.1	20:10:12:34:56:78	●
DATA1	192.168.2.136	255.255.255.0	192.168.2.1	20:20:12:34:56:78	●

Software	Hardware	OS	Web	SN	Running Time
6050.1196.FEC1	4.4.0.13	1.26.2.79G	3.125	202007151430	0 Day-00:02:40

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

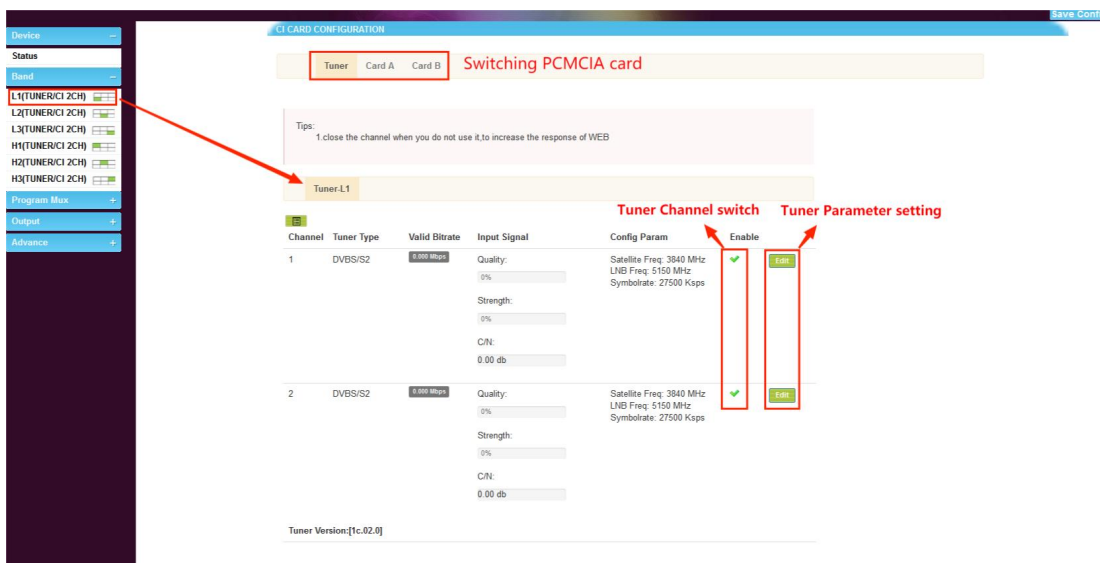
The System: the running system version

Time: the running time

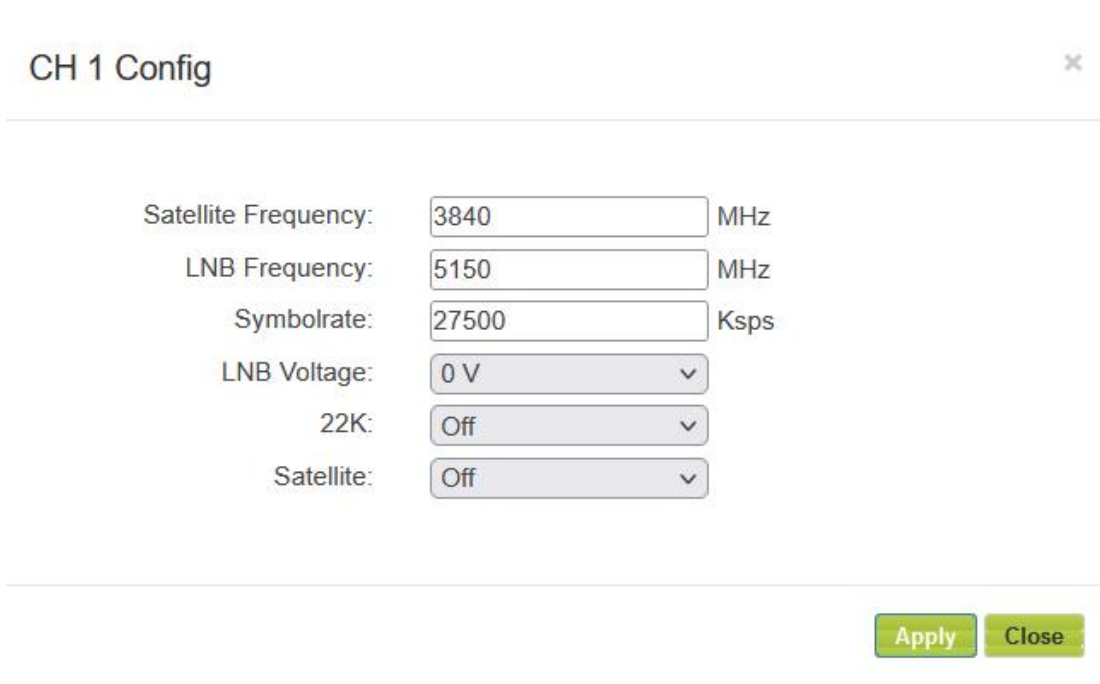
2.3.2 Settings

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

2.3.2.1 Tuner settings





Tuner Parameter, click  Set parameters

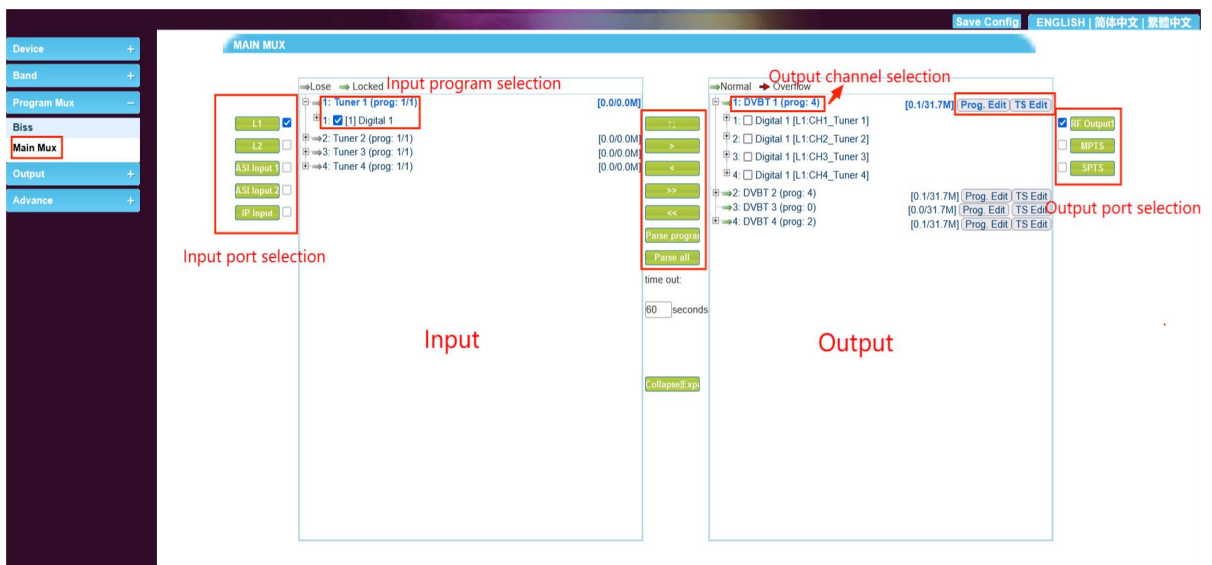



Click “Apply” to save the settings Program Mux


2.3.2.2 Program stream settings

1.Main Mux

Parse Program: After setting the parameters for each input channel of the high-frequency head, lock it, select the input channel "Tuner 1" and other channels, and click  or . Resolve program information for all channels.



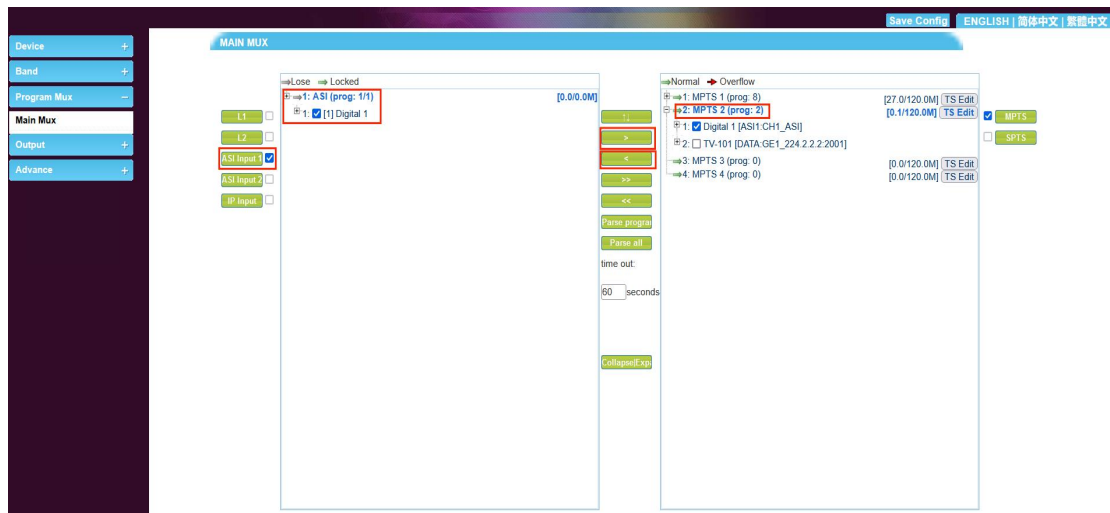
A、 Program Edit: First choose the program, tick it " [1] Digital 1", click , to connect this program to the chosen frequency.

B、 Program delete: : First choose the program, tick it " Digital 1 [L1:CH1_Tuner 1]", click , to delete this program from this channel

Function description:

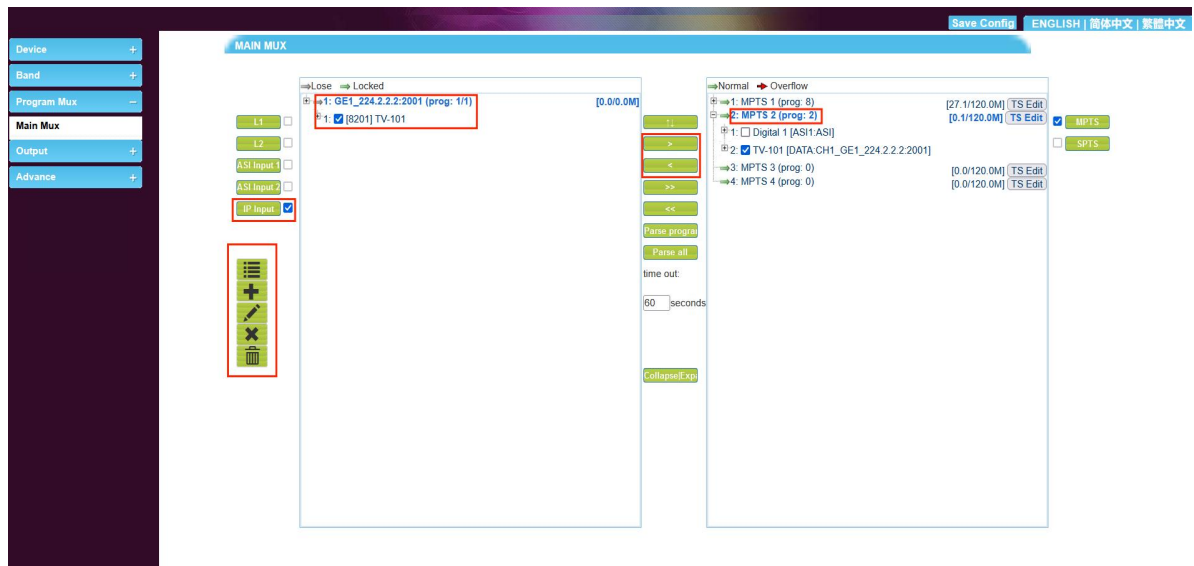


2. ASI input Mux



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

3. IP input



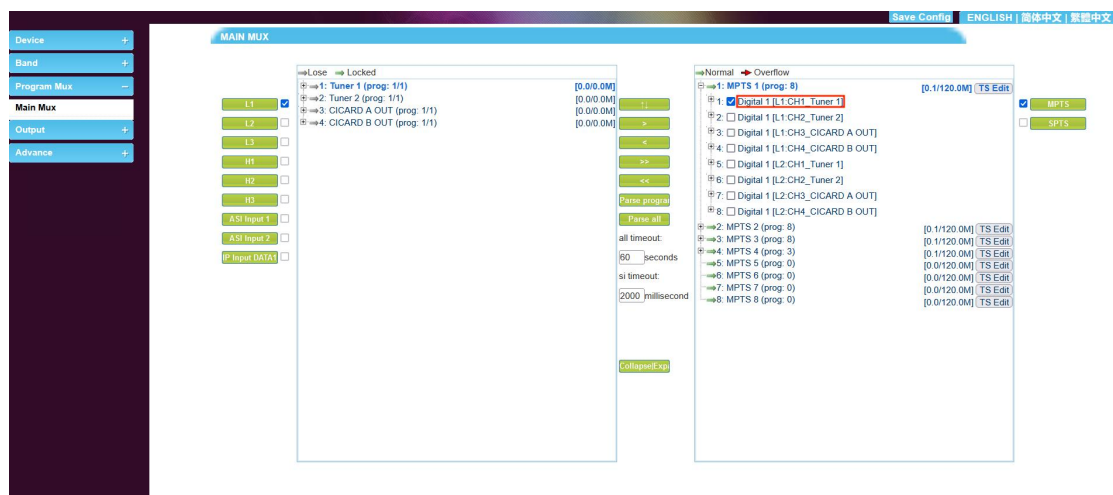
Add, delete, edit and other Settings in this list.

Function description:



4. How to Modify the program data setting

Choose the program you want to edit,as follows:



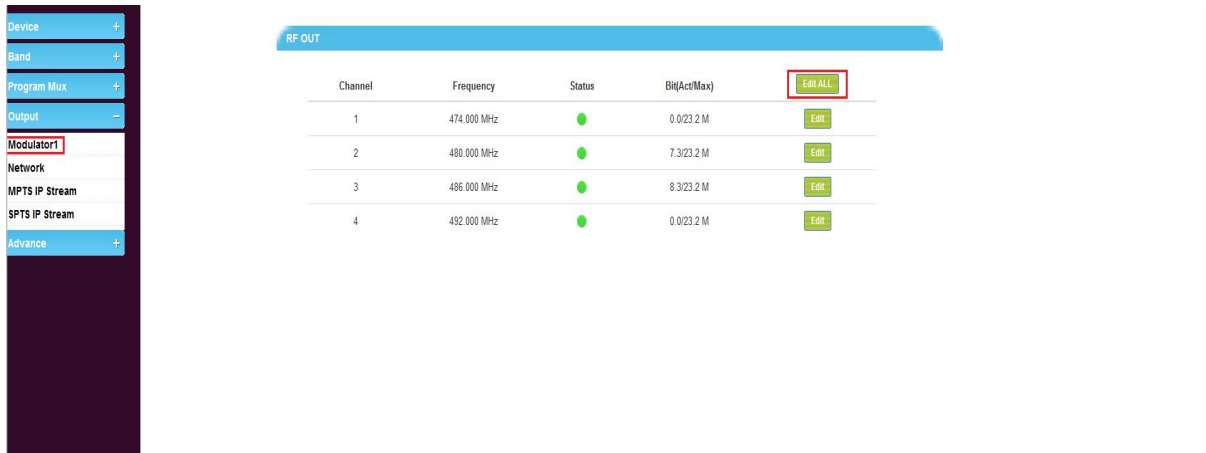
Click **Digital 1 [L1:CH1_Tuner 1]**, You will get the information of the programs:

[close](#)

Program From Input:	CH1_Tuner 1 [L1]
Service Name:	<input type="text" value="Digital 1"/>
Program Number:	<input type="text" value="8201"/>
Logic Channel Number:	<input type="text" value="1"/>
Service Type:	<input type="text" value="0x01"/>
Service Provider:	<input type="text"/>
PMT Descriptor Tag:	<input type="checkbox"/> <input type="text" value="0x00"/>
PMT Descriptor Data:	<input type="text"/> (Hex)
PMT PID:	<input type="text" value="0x0020"/>
PCR PID:	<input type="text" value="0x0021"/>
PCR First:	<input type="checkbox"/>
MPEG-2 Video PID:	<input checked="" type="checkbox"/> <input type="text" value="0x0022"/>
MPEG-2 Audio PID:	<input checked="" type="checkbox"/> <input type="text" value="0x0023"/>

Click “Apply” to save the settings .

2.3.2.3 RF OUT setting

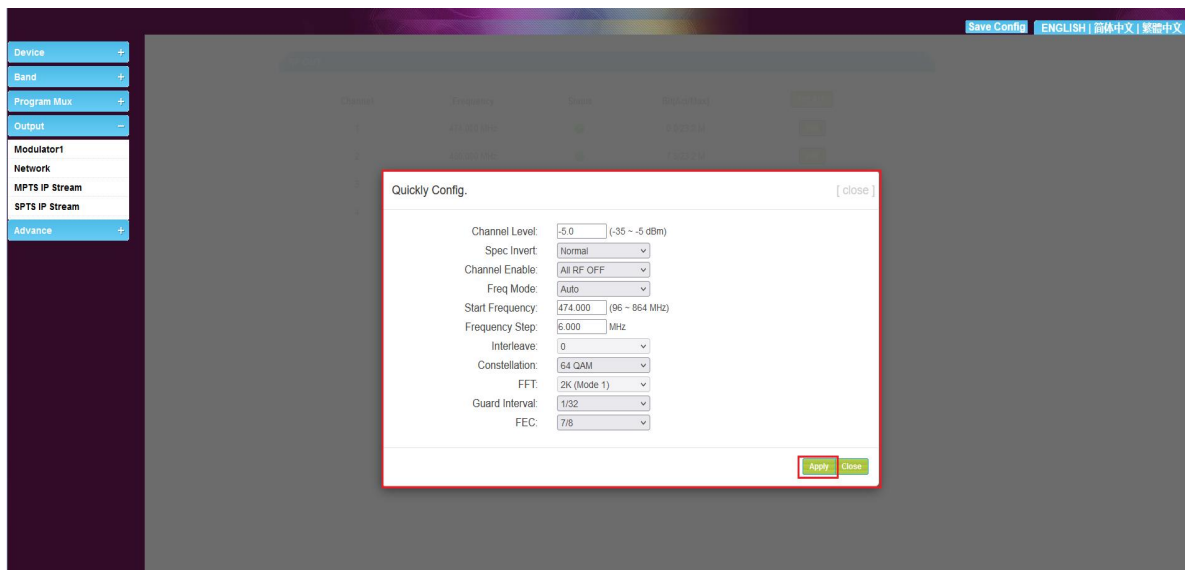


The screenshot shows the 'RF OUT' configuration page. On the left is a navigation menu with options: Device, Band, Program Mux, Output, Modulator1 (highlighted), Network, MPTS IP Stream, SPTS IP Stream, and Advance. The main content area is titled 'RF OUT' and contains a table with the following data:

Channel	Frequency	Status	Bit(Act/Max)	Edit ALL
1	474.000 MHz	●	0.0/23.2 M	Edit
2	480.000 MHz	●	7.3/23.2 M	Edit
3	486.000 MHz	●	8.3/23.2 M	Edit
4	492.000 MHz	●	0.0/23.2 M	Edit

The 'Edit ALL' button at the top right of the table is highlighted with a red box.

Click Edit all to setting all data for each frequency.



The screenshot shows the 'Quickly Config.' dialog box. The dialog box is titled 'Quickly Config.' and has a '[close]' button in the top right corner. The dialog box contains the following configuration parameters:

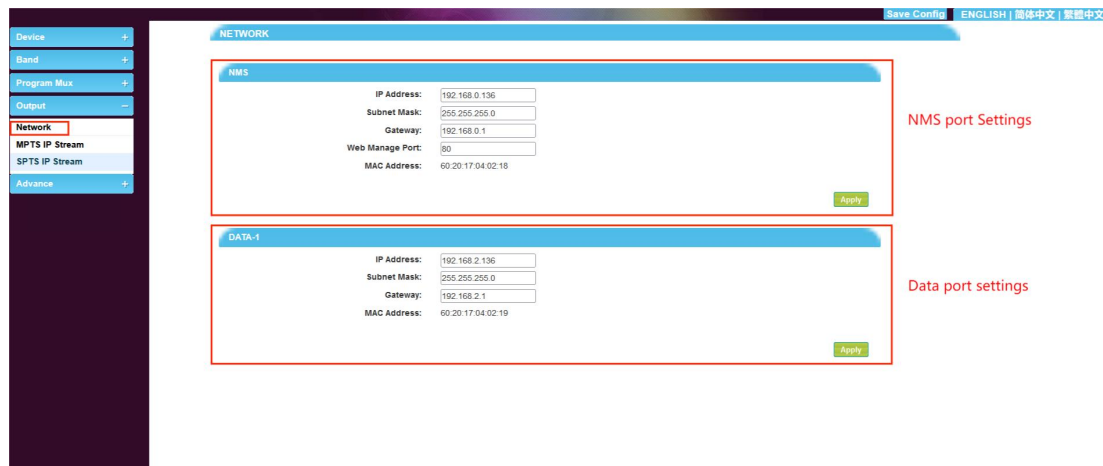
- Channel Level: 5.0 (-35 ~ -5 dBm)
- Spec Invert: Normal
- Channel Enable: All RF OFF
- Freq Mode: Auto
- Start Frequency: 474.000 (96 ~ 864 MHz)
- Frequency Step: 6.000 MHz
- Interleave: 0
- Constellation: 64 QAM
- FFT: 2K (Mode 1)
- Guard Interval: 1/32
- FEC: 7/8

The 'Apply' and 'Close' buttons are located at the bottom right of the dialog box.

Click "Apply" to save the settings .

2.3.2.4 Network settings

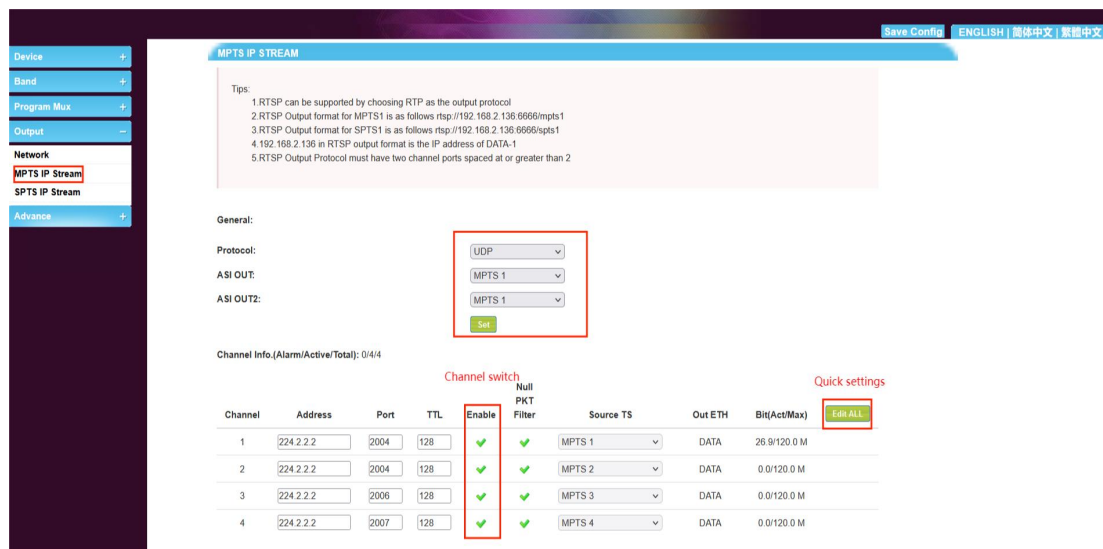
To set or change the IP address of the equipment:




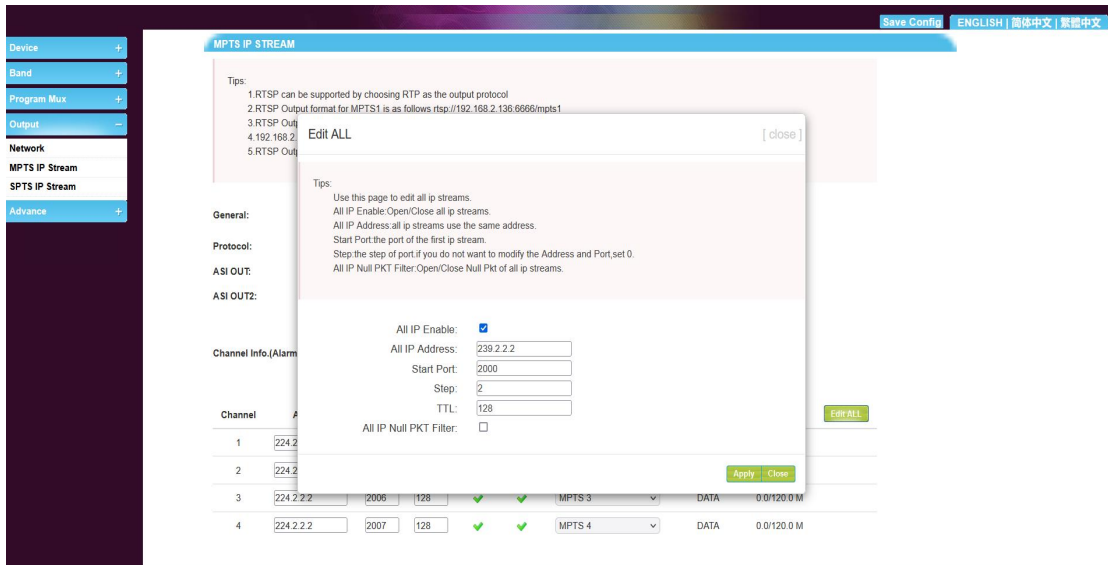
Click “Apply”to save the settings.

2.3.2.5 MPTS IP stream settings

MPTS IP setting as follows :



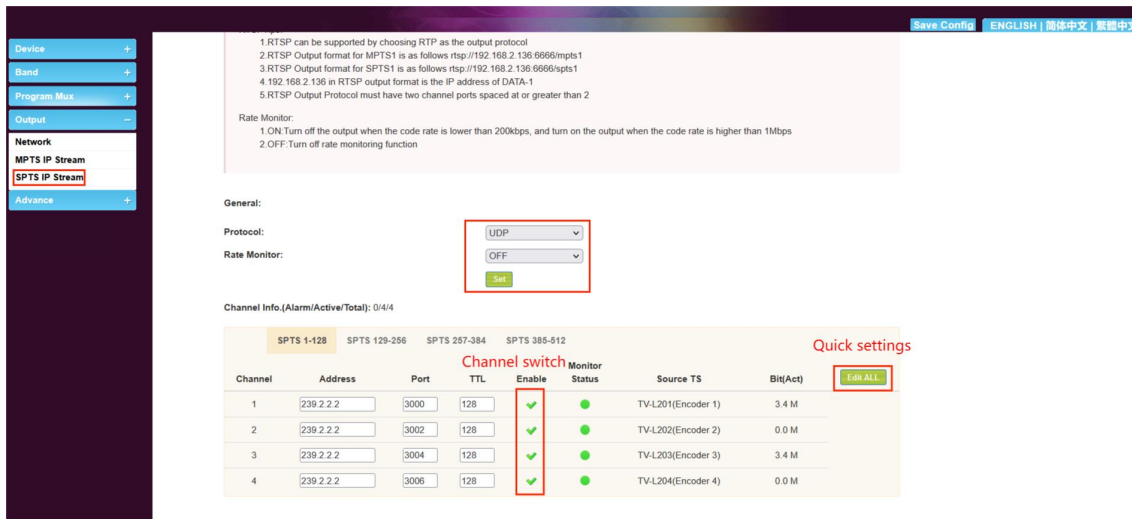
Click , You will get the information of the programs:



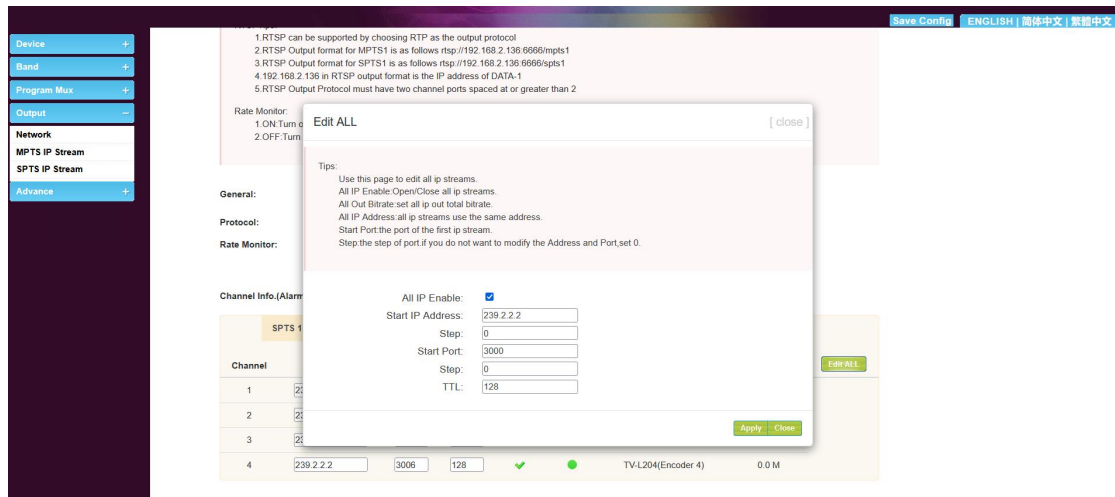
Click “Apply” to save the settings.

2.3.2.6 SPTS IP stream setting

SPTS IP setting as follows :



Click “Edit All”



Click Apply save to save the settings.

2.3.3 Advanced settings

This is the advanced setting of the device , including the modulation format switching, software updating, uploading .

2.3.3.1 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.

2.3.3.2 User/password settings

User name and password settings.

The screenshot shows the 'PASSWORD' configuration page. On the left is a navigation menu with options: Device, Band, Program Mod, Output, Advance, Upgrade, Save | Load, User | Password, Date | Time, and Log. The main content area has a title bar 'PASSWORD' and a 'Save Config' button. Below the title bar is a warning message: 'Modify the login name and password to make the device safely. If forget the name or password, you can reset it by keyboard. The default login name and password is "admin". Also please note the capital character and lowercase character.' Below this are four input fields: 'Current Username: admin', 'Current Password:', 'New Username:', 'New Password:', and 'Confirm New Password:'. An 'Apply' button is located at the bottom right of the form.

Default username and password: admin

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

2.3.3.3 Save / load the settings

The screenshot shows the 'CONFIGURATION' page. On the left is the same navigation menu as in the previous screenshot. The main content area has a title bar 'CONFIGURATION' and a 'Save Config' button. Below the title bar is a navigation bar with buttons: 'Save To Device', 'Load From Device', 'Load Default Config', 'Save To PC', and 'Load From PC'. A red box highlights these buttons. To the right of this bar is the text 'Configuration file loading, saving, backup, clearing, etc'. Below this is a warning message: 'When you change the parameter, you should save configuration, otherwise the new configuration will lost after reboot.' Below the warning is a 'Save' button. Further down is a section titled 'CLEAR CONFIG' with a warning message: 'Clear current configuration File.Reboot the device,device will enter factory mode.' Below this is a 'Clear' button.

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.

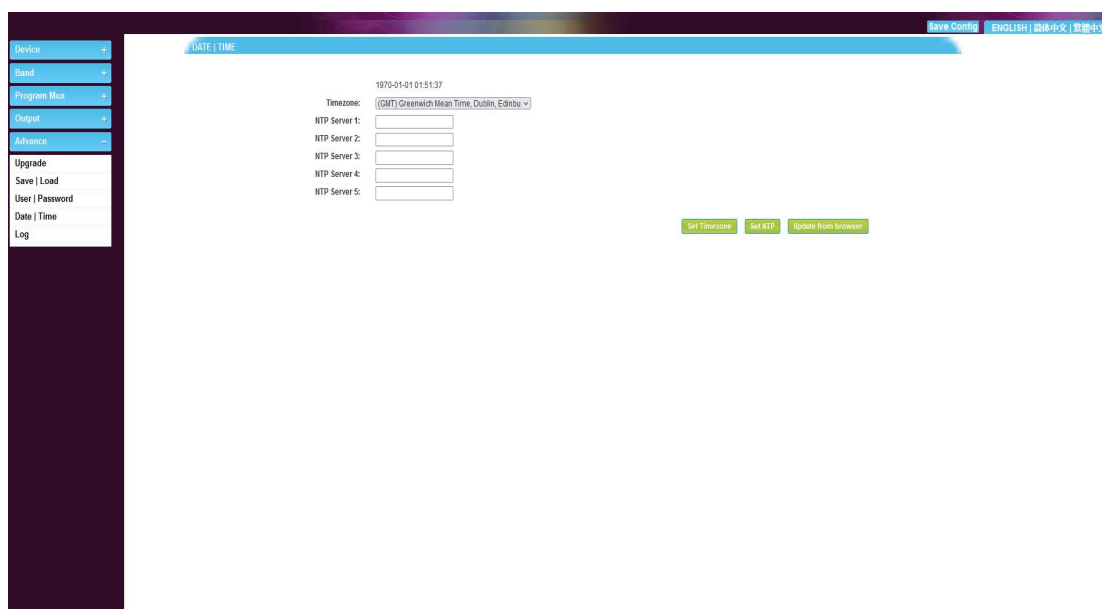
3、 Load the default config: This is to reset the device to the factory settings.

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 CONGLG: Click “Clear”to delete all the current setting to reset the data settings.

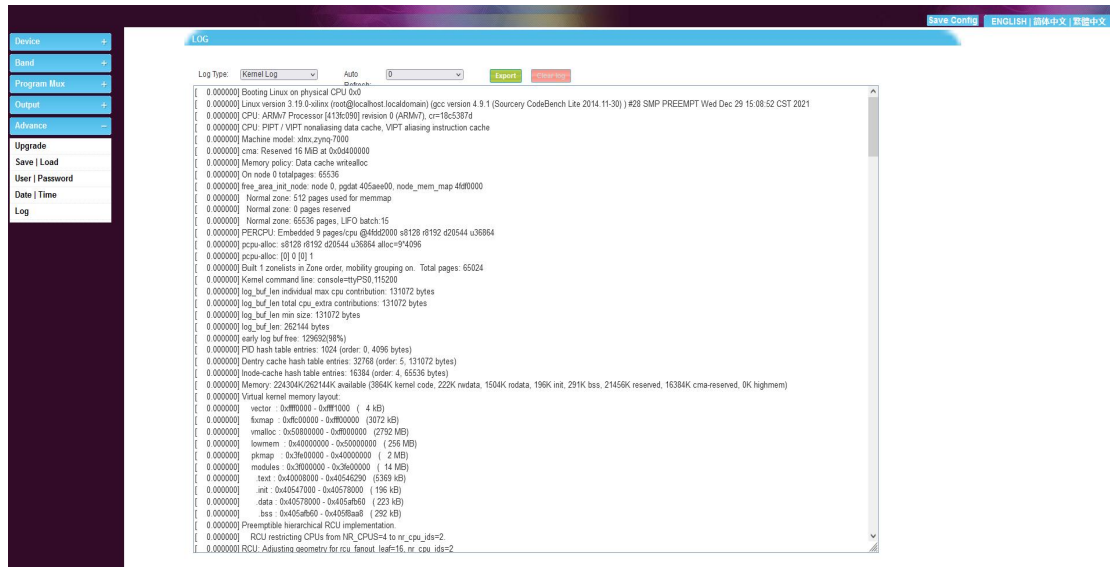
2.3.3.4 Date/ Time



To set the date and time.

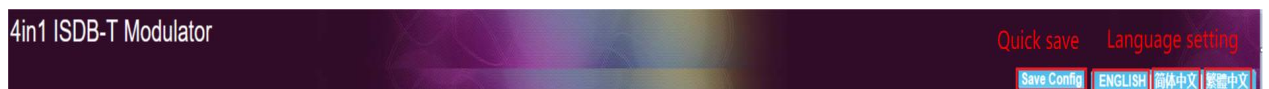
2.3.3.5 Blog

Record the operating status and parameter modification of the equipment.



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

2.3.4 Language exchange



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

Please save the changes after all operations.

3 Cautions

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

3.1 Precaution

- ◆ Place the equipment in an suitable place with a temperature range of 0-45°C
- ◆ 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)

3.2 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