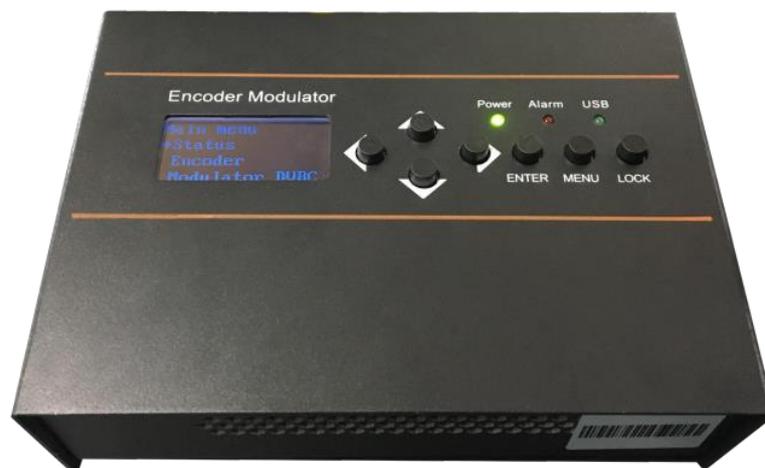


NetUP Streamer HEVC

User manual

26.10.2020



Directory

CHAPTER 1 Product Introductions	3
General Description	3
System Connection Chart	3
Technical Specifications	4
CHAPTER 2 Safety Instruction and Installations.....	6
Safety Instructions	6
Installations	7
Cascade Installation	7
CHAPTER 3 Devices Operations and Management	8
Chapter 4 Operations of Record TS and Play TS through USB Disk.....	12
Chapter 5 Operations of Web-server.....	13

CHAPTER 1 Product Introductions

General Description



Grounding: to connect the earth cable

DC 12V: power input

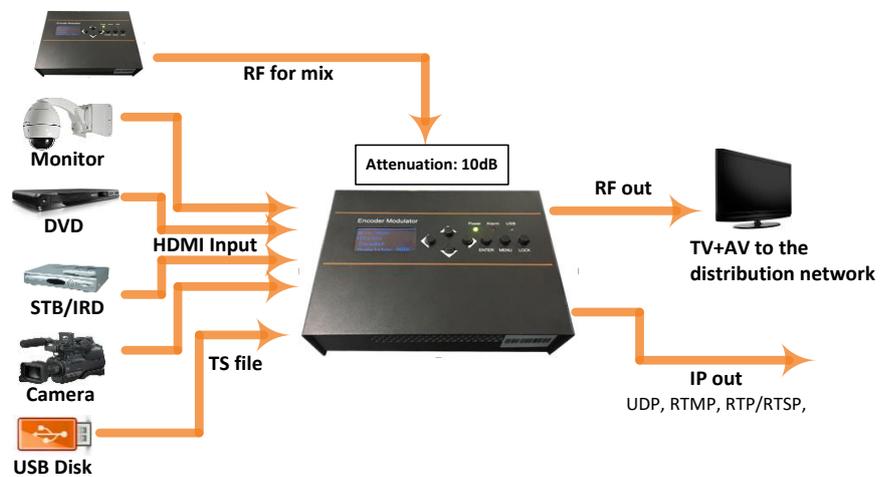
USB: USB Port for Video Record, Save and Playback

HDMI: HDMI stream input supporting FHD signals

RF in: RF Loop-through input (10 dB attenuation)

RF out: RF output to distribute modulated signal (30-960 MHz, 71~91 db μ V)

System Connection Chart



Technical Specifications

Encoding Section		
HDMI		
Video	Encoding	HEVC/ H.265 , MPEG 4 AVC/H.264
	Interface	HDMI*1
	Resolution	1920*1080_60P, 1920*1080_50P; 1920*1080_59.94P, 1920*1080_59.94i; 1920*1080_60i, 1920*1080_50i; 1280*720_60p, 1280*720_59.94 1280*720_50P
	Bit rate	1Mbps~15Mbps
Audio	Encoding	MPEG-1 Layer 2, LC-AAC, HE-AAC, HE-AAC V2; AC3 Pass-through
	Sample rate	48KHz
	Bit rate	48~384Kbps (MPEG-1 Layer 2& LC-AAC) 24~128 Kbps (HE-AAC) 18~56 Kbps (HE-AAC V2)
IP output		
IP out over UDP (Unicast/multicast), RTMP, RTP/RTSP, (RJ45, 100/1000M self-adaption)		
Modulator Section		
DVB-C		
Standard	J.83A (DVB-C), J.83B	
MER	≥43dB	
RF frequency	30~960MHz, 1KHz step	
RF output level	-16~ -36 dBm (71~91dbμV), 0.1db step	
Symbol rate	5000-9000 Ksps	
	J.83A	J.83B
Constellation	16/32/64/128/256QAM	64/ 256 QAM
Bandwidth	8M	6M
DVB-T (optional)		
Standard	DVB-T COFDM	
Bandwidth	6M, 7M, 8M	
Constellation	QPSK, 16QAM, 64QAM,	
Code rate	1/2, 2/3, 3/4, 5/6, 7/8.	
Guard Interval	1/32, 1/16, 1/8, 1/4	
Transmission Mode:	2K	
MER	≥35dB	
RF frequency	100-900MHz, 1KHz step	
RF output level	-63~ -16dBm, 1dB step	
ISDB-T Modulator (optional)		
Standard:	ARIB STD-B31	
Constellation:	QPSK, 16QAM, 64QAM	
Guard Interval:	1/32, 1/16, 1/8, 1/4	
Transmission Mode:	2K, 4K, 8K	

Code rate:	1/2, 2/3, 3/4, 5/6, 7/8
RF frequency:	100~900MHz, 1KHz step
RF output level:	-63~ -16dBm, 1dB step
ATSC (optional)	
Standard	ATSC A/53
MER	≥35dB
RF frequency	100~900MHz, 1KHz step
RF output level	63~ -16dBm, 1dB step
Constellation	8VSB
System	
Management	Web-GUI, LED+Keyboard
Language	English
LCN Insertion	yes
Upgrade	Web update
General	
Power supply	DC 12V
Dimensions	160*120*52mm
Weight	< 1kg
Operation temperature	0~45°C

CHAPTER 2 Safety Instruction and Installations

Safety Instructions

 **WARNING:** Hot plug is not allowed since it may cause system halted.

To prevent fire or electrical shock, do not expose the device to rain or moisture.

 The encoder modulator is powered with a voltage of 12V DC. The power supply voltage must not exceed the recommended voltage, which otherwise may cause irreparable damage to the device and the invalidation of the warranty.

Therefore:

- Do not replace power supply with a voltage greater than 12V DC.
- Do not connect the device to the power if the power cord is damaged.
- Do not plug the device into mains supply until all cables have been connected correctly.
- Do not cut the cord.

 Avoid placing the device next to central heating components and in areas of high humidity.

Do not cover the device with elements that obstruct the ventilation slots.

If the encoder modulator has been kept in cold conditions for a long time, keep it in a warm room minimum 2 hours before plugging into the mains.

Mount the device in vertical position with the connectors located on the top side.

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutes may result in fire, electric shock or other hazards.

Safety check- Upon completion of any service or repairs to this device, ask the service technician to perform safety checks to determine that the device is in proper condition.

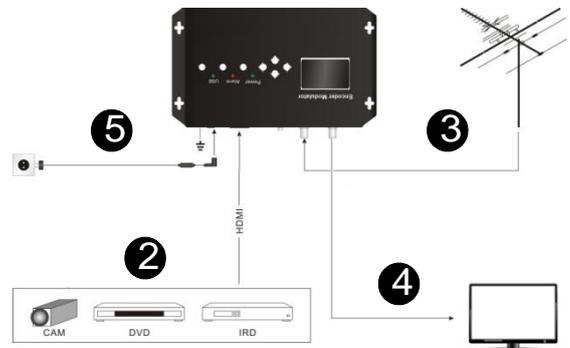
Installations

RISK OF damage to the unit

Mechanically handling the unit may result in damage. Do not connect the unit to the power supply before or during assembly. Connect the unit as below instructed.

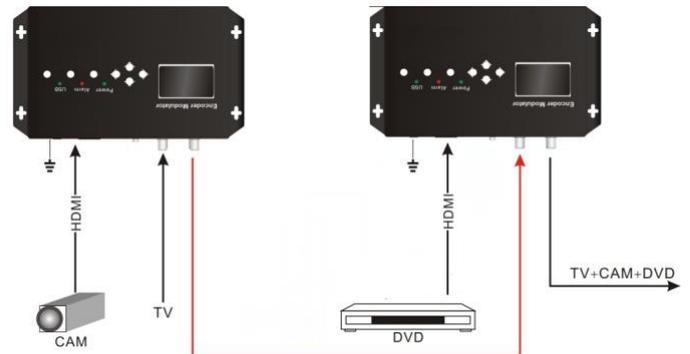
NO HOT PLUG!

1. Mount and tighten the screws and plugs to secure the unit to the wall. Left 10 cm of free space around from each unit.
2. Connect the signal input in the respective connectors. The signal source can be from a surveillance monitor, DVD, set-top box, CCTV and etc.
3. Optionally, connect the loop-through RF input coaxial cable.
4. Connect cable to RF output to STB/TV.
5. Power supply connection: a) Connect the earth cable; b) Connect the power plug to the unit mains connector; c) Connect the power plug to the mains socket.



Cascade Installation

Device unit has 1 TV signal to RF output encoded as Digital TV signal. Several device units can be cascaded in order to increase the capacity. The maximum capacity of a series of N units is 1xN incorporated TV signals. To cascade 2 or more units, connect the RF output of the preceding unit to the TV input (loop-through) of the next unit (see right illustration)



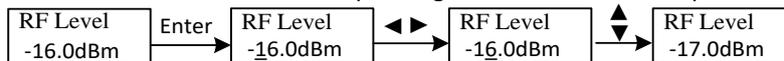
CHAPTER 3 Devices Operations and Management

Device is controlled and managed through the key board and LCD display.

LCD Display – It presents the selected menu and the parameter settings. The backlight in the display is on when the power is applied.

LED – These lights indicate the working status

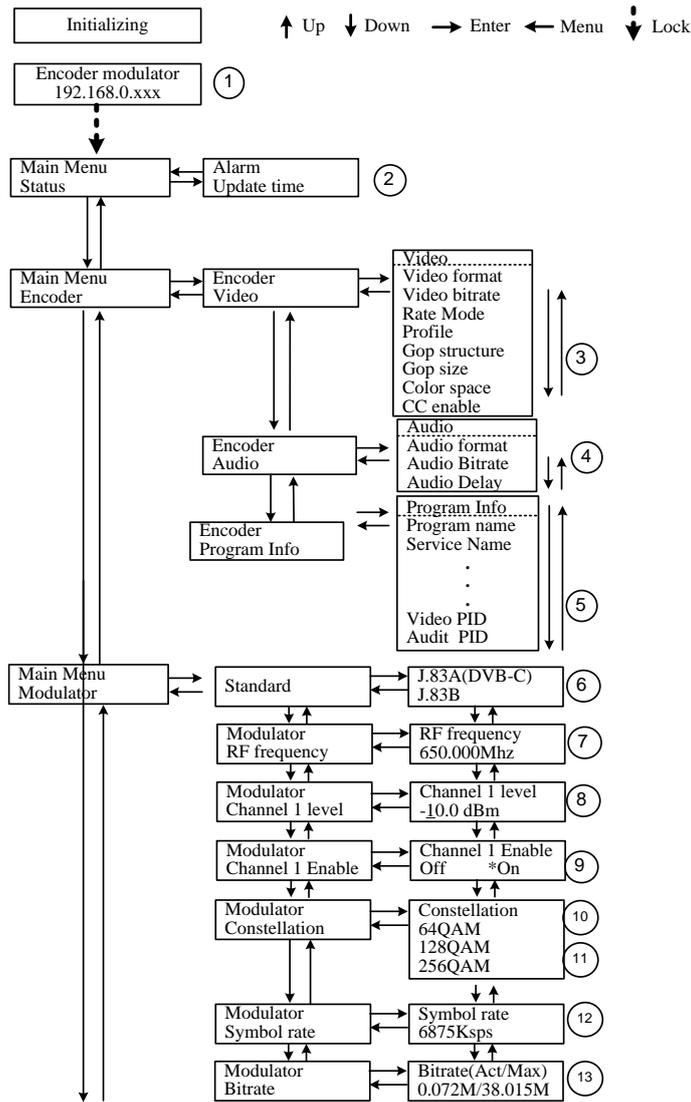
- Power: It lights on when the power supply is connected.
- Alarm: It lights on when there is error, such as the signal source loss.
- Lock: It lights on when the signal source connected and goes off when the signal loses.
- Left/Right/Up/Down buttons – Use these buttons to turn the screen pages, shift the target items by moving the triangle, or change the parameter settings in the program mode.
- **Enter** – Use this button to enter a submenu or save a new setting after adjustment; press it to start adjusting the value of certain items when the corresponding underline flash with Up and Down buttons;

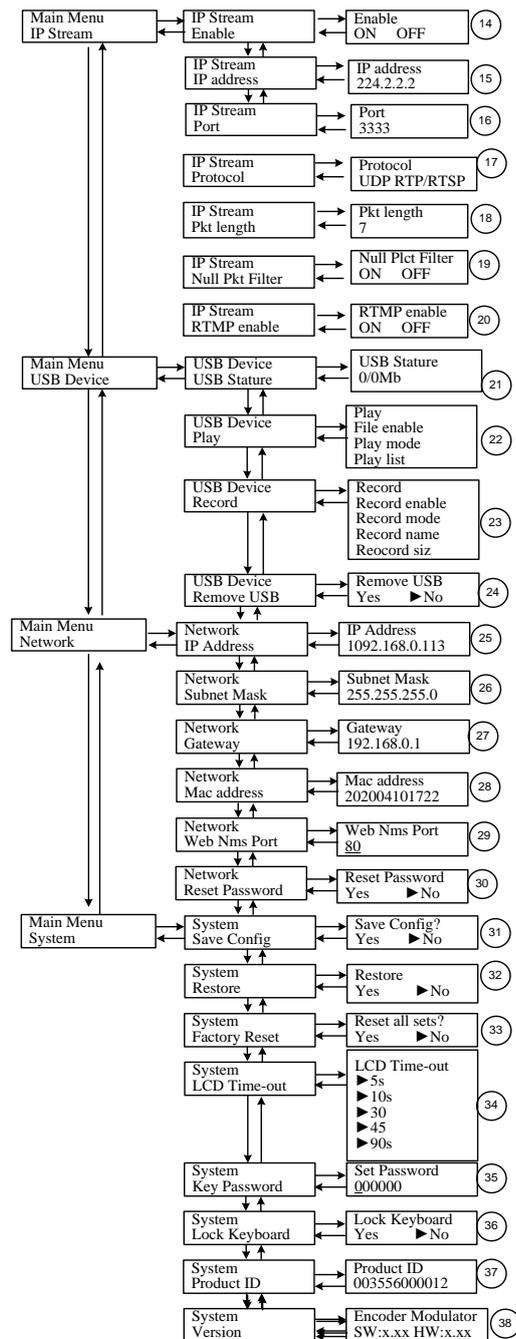


- Press it to activate the hidden selections and change the setting with Up and Down (or Left and Right) buttons.



- **Menu** – Press this button to step back
- **Lock** – Locking the screen / cancelling the lock state, and entering the main menu after the initialization of the device. After pressing lock key, the system will question the users to save present setting or not. If not, the LCD will display the current configuration state.
- When the power is connected, the LCD will start to initialize the program. The LCD menu goes as below chart.





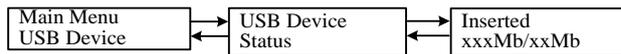
- 1) IP address: 192.168.0.XX: the current IP address
- 2) Alarm Status: For example, if the signal cable disconnected, it will display *Video 1 Not Lock* under this menu.
Uptime: It displays the working time duration of the device. It times upon power on.
- 3) Video Parameters: User can enter the items respectively to check video status and input signal resolution. User can also choose H.265/H.264 and set Video Bitrate, Low delay time, Rate Mode, H.264 Profile, and H.264 Level.
- 4) Audio Bit rate: Select audio bit rate among 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320, 384kbps.
Audio Format: Select audio format among MPEG2, MPEG2-AAC and MPEG4-AAC.
- 5) Program Information: User can enable or disable the program output under menu *Program Output*. User can also enter the other items to edit the *Service Name*, *Program Name*, *Program Number*, and PIDs of *PMT*, *PCR*, *Video* and *Audio*, and edit LCN (Logical channel number).
- 6) Standard: J.83A or J.83B for choosing.

- 7) RF Frequency: Adjust it at range of 100 to 900 MHz. Set it according your regional situation or inquire your local services.
- 8) Channel 1 Level: Adjust it at range of -20~ -5dBm.
- 9) Channel 1 enable: Yes/No for choosing
- 10-11) Constellation: Select constellation among 16, 32, 64, 128, 256QAM
- 12) Symbol rate: Modify symbol rate by pressing right/left and up/down key and to confirm by pressing Lock key. (5000-7000Ksps)
- 13) Bit Rate: User can read the current modulating bit rate and the maximum bit rate
- 14) IP stream Enable. Yes/No for choosing
- 15) IP Address: The current equipment address
- 16) IP Port: The current equipment IP Port
- 17) IP Protocol: UDP RTP/RTSP for choosing
- 18) Pkt Length: User can select from 1 to 7
- 19) Null Pkt enable :On/Off for choosing
- 20) RTMP enable: On/Off for choosing
- 21) – 24) Please refer to **Chapter 4** for more details.
- 25) – 30) Network setting, Pls referent to **Chapter 5** for more details.
- 31) Save Config: Yes/No-to save/give up the adjustment of setting.
- 32) Restore: Yes/No-to load/ not to load the saved configuration.
- 33) Factory set: Yes/No-choose/not choose the factory's default configuration.
- 34) LCD Time out: A time limit that LCD will light off. Choose among 5s, 10s, 45s, 60s, 90s and 120s (seconds).
- 35) Key Password: User can set a 6-digital password used to unlock the keyboard.
- 36) Lock Keyboard: Choose Yes to lock the keyboard, then the keyboard cannot be applicable. It is required to input the password to unlock the key board. This operation is one-off. (If forgetting your password, please use the universal code "005599".)
- 37) Product ID: User can view the serial number of this device. It is read-only and unique
- 38) Version: It displays the version information of this device. *Encoder Modulator*: the name of the device; *SW*: software version number; *HW*: hardware version number. User can also press ENTER again to view the published time of this device.

Chapter 4 Operations of Record TS and Play TS through USB Disk

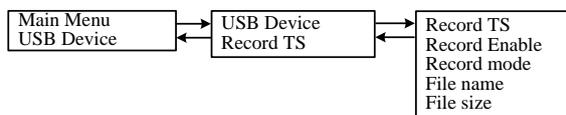
Encoder modulator has the functions of:

1. USB Stature



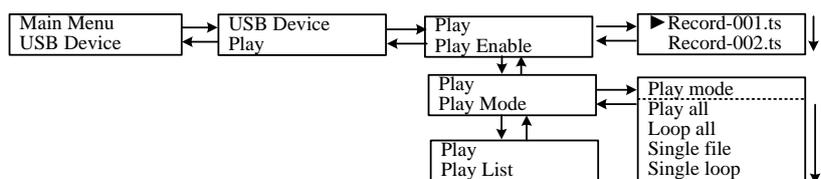
xxxMb is the total capacity of USB pen driver, xxMb is available capacity of this USB pen driver

2. TS Record and Save



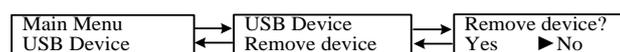
- 1) Connect the signal source, enter “Record Enable” and choose “Yes” to start recording the encoded TS.
- 2) Recode mode: there are 3 modes provided: “single file” (For example, when the file size is set as 1000M and the *.ts is recorded up to 1000M, it automatically stops recording TS.). “Segmented file” (For example, when the file size is set as 1000M and the *.ts is recorded up to 1000M, it automatically saves the files and continues to record TS and save it to next file until the USB memory is full.) . “Loop record”: (it automatically saves the files and continues to record TS and save it to next file. When the USB memory is full, it replaces the previous files.)
Pls note: Before the record, it is better that user can set the record mode firstly.
- 3) File name: Users can enter this menu to edit name for the *.ts files to be recorded. For example, if users name it “Record-”, it will give name to the saved *.ts files “Record-001.ts”, “Record-002.ts” ... “Record-00N.ts”.
- 4) File size: users can set the file size for the *.ts to be recorded. A single file can be maximum 2000M in size.

3. TS Playback



- 1) Play Enable: There is a video list under this menu, choose one file and press “Enter” button to start play.
- 2) Play mode: User can select a play mode for the saved *.ts files as needed before playing the *.ts file.
- 3) Play List: User can see all the programs in the USB pen driver

4. Remove USB



Choose “Yes” to safely remove the USB disk. Device will then automatically resume encoding and playing the program input from the encoder module.

Chapter 5 Operations of Web-server

In addition to using front buttons to control the encoder modulator and USB device, users can also perform the same operation in an easier way with the web Browser in the PC (Personal Computer).

Login

The default IP address of this device is 192.168.0.136. (We can modify the IP through the front panel.)

Connect the PC and the encoder modulator with a net cable, and use ping command to confirm they are on the same network segment.

I.G. the PC IP address is 192.168.99.252, we then change the device IP to 192.168.99.xxx (xxx can be 1 to 254 except 252 to avoid IP conflict).

Use web browser to connect the device with PC by inputting the device's IP address in the browser's address bar and press Enter.

It will display the Login Web-interface. Input the Username and Password (Both the default Username and Password are "admin".) and then click "LOGIN" to start the device setting.

Operation

Summary:

When we confirm the login, it displays the WELCOME interface as Figure-2 where users can have an overview of the device's system information and working status.

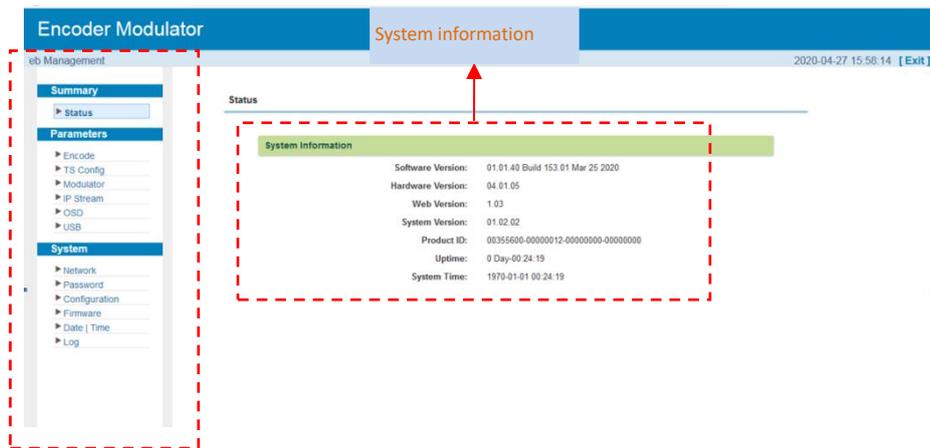


Figure-2

User can click any item here to enter the corresponding interface to check information or set the parameters.

Parameters → Input 1:

From the menu on left side of the webpage, clicking "Encoder", it displays the interface where users can configure the encoding parameters for the input video/audio. (Figure-3)

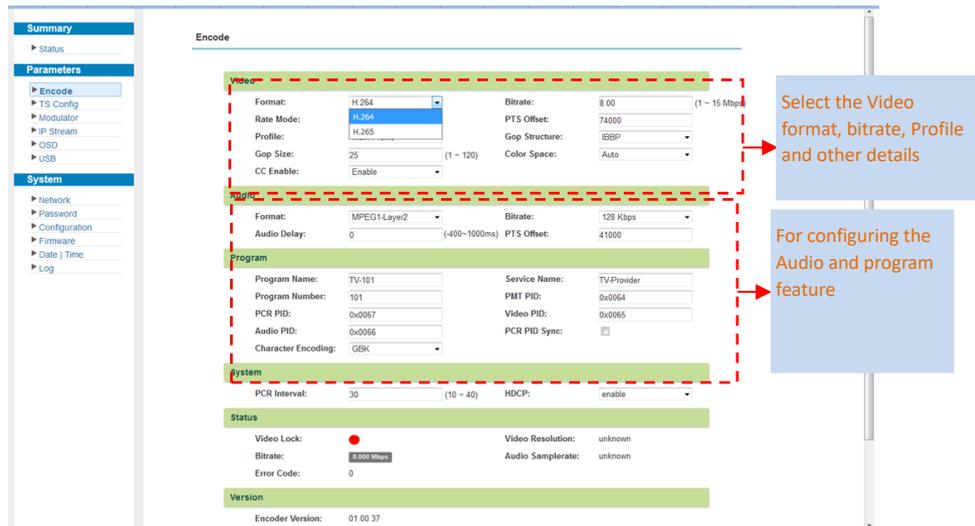


Figure-3

Parameters → TS Config:

From the menu on left side of the webpage, clicking “TS Config”, it displays the interface where users can configure the parameters for the transport stream as prompt. (Figure-4)

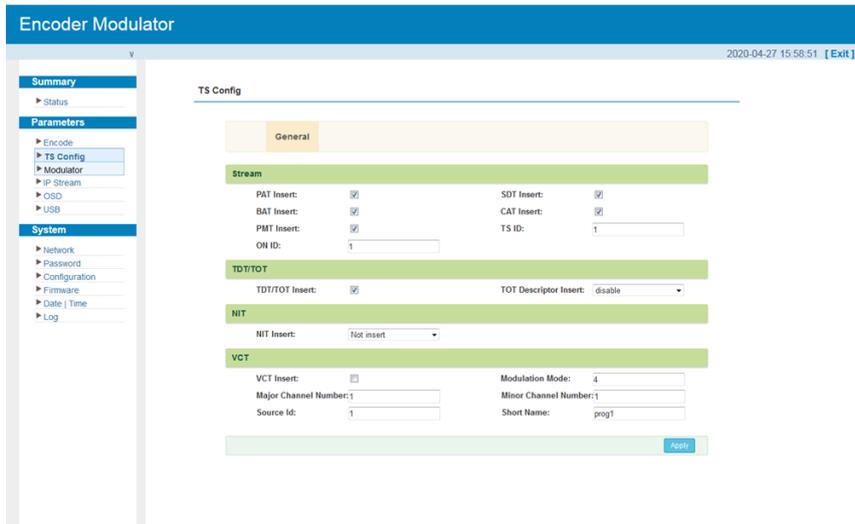


Figure-4

Parameters → Modulator:

From the menu on left side of the webpage, clicking “Modulator”, it displays the interface where users can configure current the modulating parameters for the RF output (Figure-5).

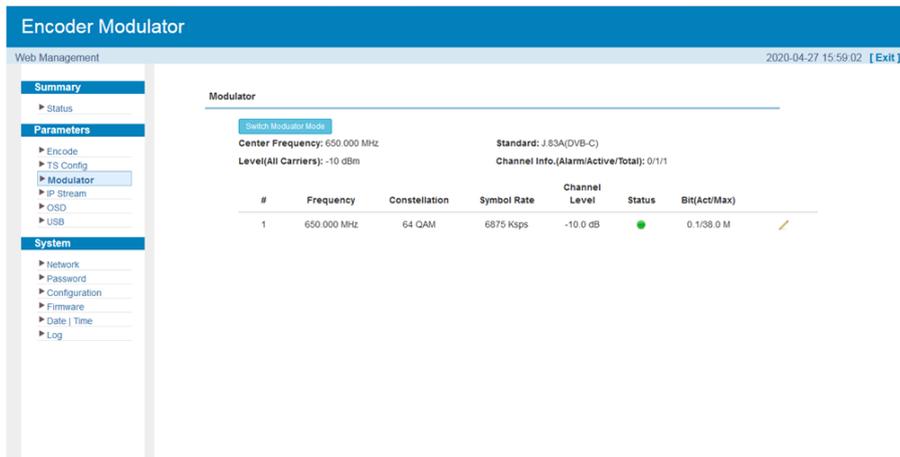


Figure-5

Parameters → IP stream:

From the menu on left side of the webpage, clicking “IP stream”, it displays the interface where users can configure current the IP stream parameters (Figure-6).

Pls note: RTMP protocol only can be configuration in the webpage management

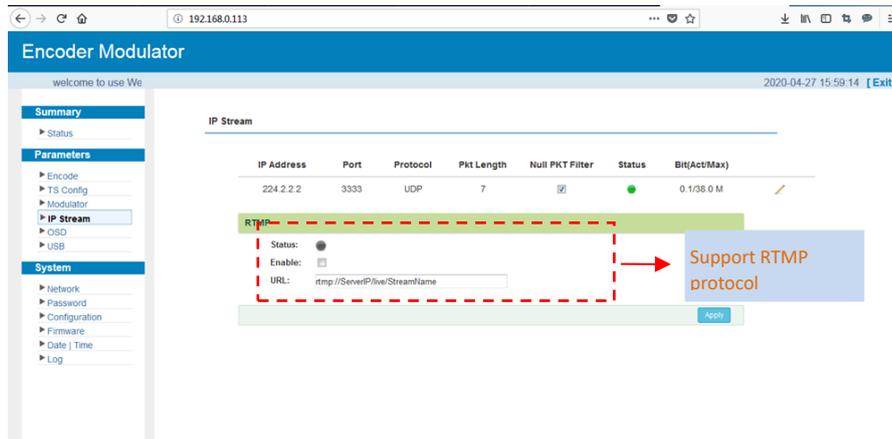


Figure-6

Parameters → OSD:

From the menu on left side of the webpage, clicking “OSD”, it displays the interface where users can configure OSD parameters for the RF output.

Parameters → USB:

From the menu on left side of the webpage, clicking “USB”, it displays the interface where users can operate USB device. (Figure-8)

NOTE: It is necessary to connect USB device and signal source and activate encoding to operate TS recording.

NOTE: It is necessary to connect USB device when operate TS playing.

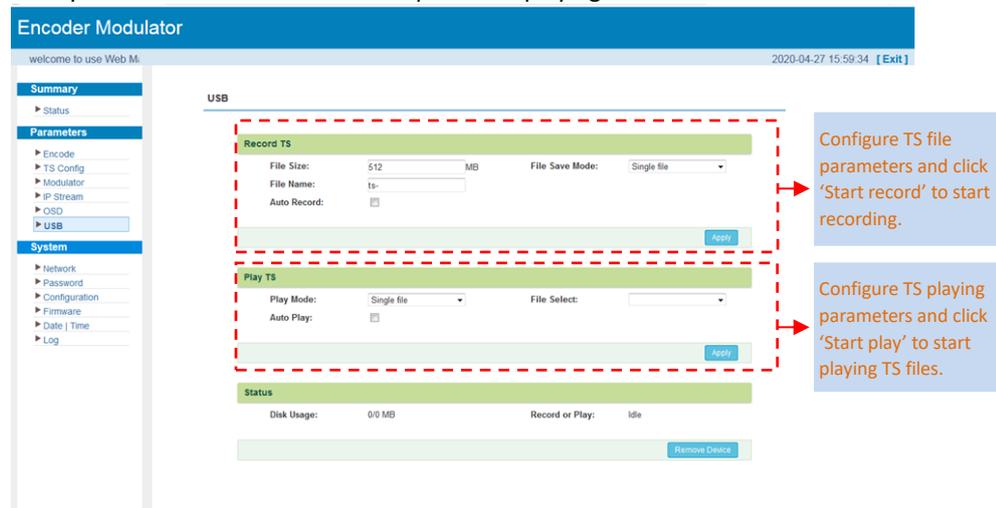


Figure-8

Detailed Explanation:

There are 3 File save modes provided:

- “Single file”: For example, when the file size is set as 1000M and the *.ts is recorded up to 1000M, it automatically stops recording TS.
- “Segment file”: For example, when the file size is set as 1000M and the *.ts is recorded up to 1000M, it automatically saves the files and continues to record TS and save it to next file until the USB memory is full.
- “Loop record”: It automatically saves the files and continues to record TS and save it to next file. When the USB memory is full, it replaces the previous file.

File Size: users can set the file size for the *.ts to be recorded. A single file can be maximum 2000M in size.

File Name: Users can enter this menu to edit name for the *.ts files to be recorded. For example, if users name it “Record-”, it will give name to the saved *.ts files “Record-001.ts”, “Record-002.ts” “Record-00N.ts”.

File Select: To browse TS files in the USB device.

Play Mode: User can select a play mode for the *.ts files as needed before playing the *.ts file and specify a video under ‘Single file’ / ‘Single loop’ mode and press “Enter” button to start play. While under ‘Play all’ / ‘Loop all’ mode, it automatically plays files from first to end.

Auto Record/Play: When the auto mode is enabled, the device will automatically record/play after USB connected. Otherwise user needs to click “Start record/Play” button to start.

System → NMS:

From the menu on left side of the webpage, clicking “Network”, it displays the interface where users set the network configuration for the device. (Figure-9)

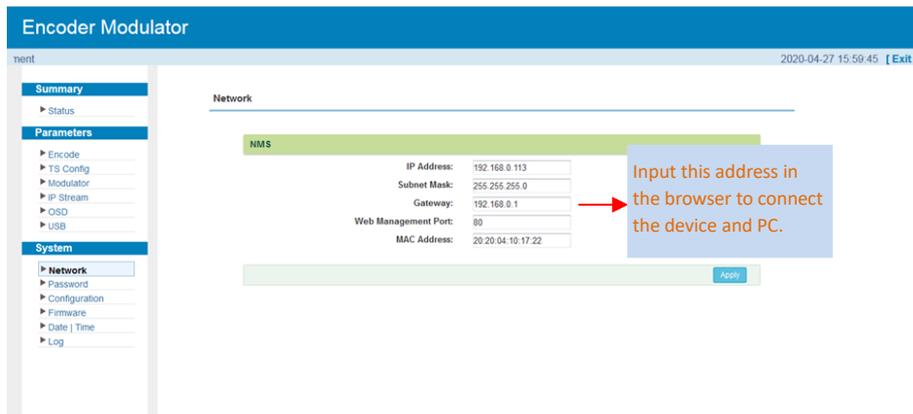


Figure-9

System → Password:

From the menu on left side of the webpage, clicking “Password”, it will display the screen as Figure-9 where to set the login account and password for the web NMS. (Figure-10)

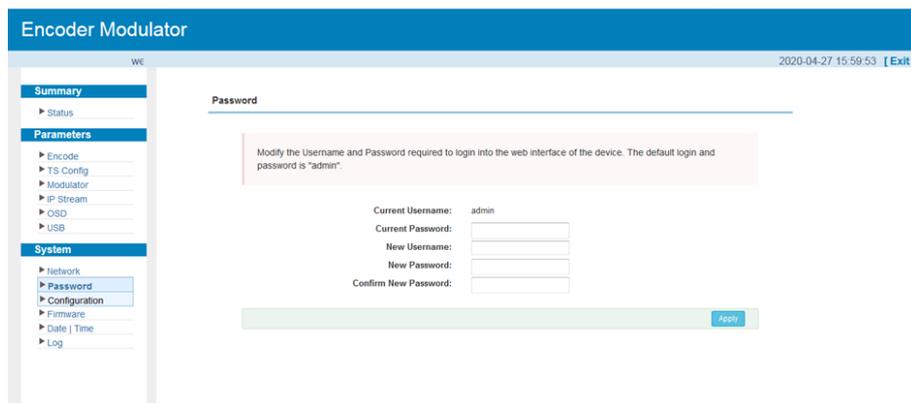


Figure-10

System → Configuration:

From the menu on left side of the webpage, clicking “Configuration”, it displays the interface where users can set the configuration that save/Restors/factory set/backup and load. (Figure-11)

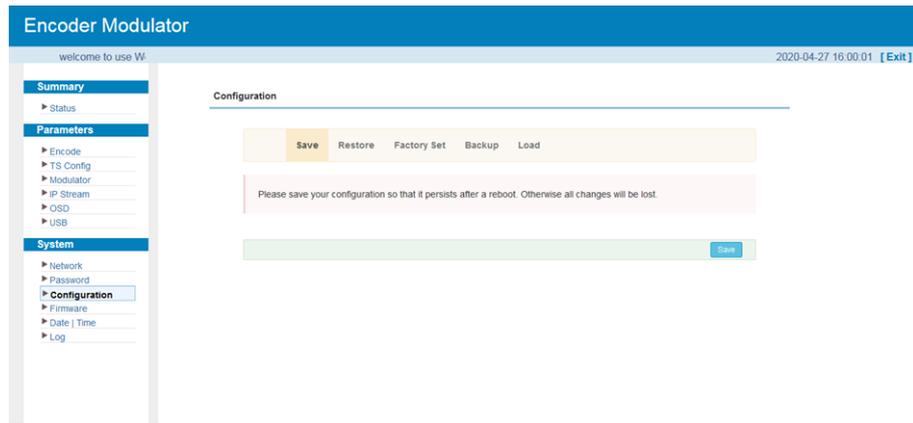


Figure-11

System → Firmware:

Click "Firmware" from the menu it will display the screen. Here user can update the device by using the update file. Click "Browse" to find the path of the device update file for this device then click "Update" to update the device. After updating the device, user needs to restart the device.

System → Date/time

Clicking "Date/Time", it displays the screen where to set date and time for the device:

System → Log

Clicking "Log", it displays the log interface as Figure-14 where to check or export the Kernel/System log.