



# [H-H.264IP-E](#) Network Encoder

Revision 2.3-2016

## **A Note from Thor Broadcast about this Manual**

### **Intended Audience**

This user manual has been written to help people who have to use, integrate and to install the product. Some chapters require some prerequisite knowledge in electronics and especially in broadcast technologies and standards.

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## **Chapter 1 - Introduction**

### **1.1 Product Overview**

The Thor Broadcast H-H.264IP-E is a single channel encoder with multiple input options to stream any HDMI/YPPbR input into an MPEG4 stream that is web managed and can be viewed over LAN or Public Internet. This compact unit brings you big time result broadcast HDMI compliant video source in HD Resolution in H.264 format in a compression format that makes it easy to view on most internet ready devices with browsers. Use your IP STB, PC or TV to watch your programs anywhere. Whether you are in your house or across the globe, you'll never miss a game or your favorite show.

The device supports HDMI compliant input and encodes in MPEG 4 AVC/H.264 format. After that, it pushes the IP signal output over UDP (unicast/multicast), RTMP and HLS. The USB port is designed to record and save the encoded video (TS) in ts\* files in the USB thumb or Hard Disks and play it back through IP output to increase your content options.

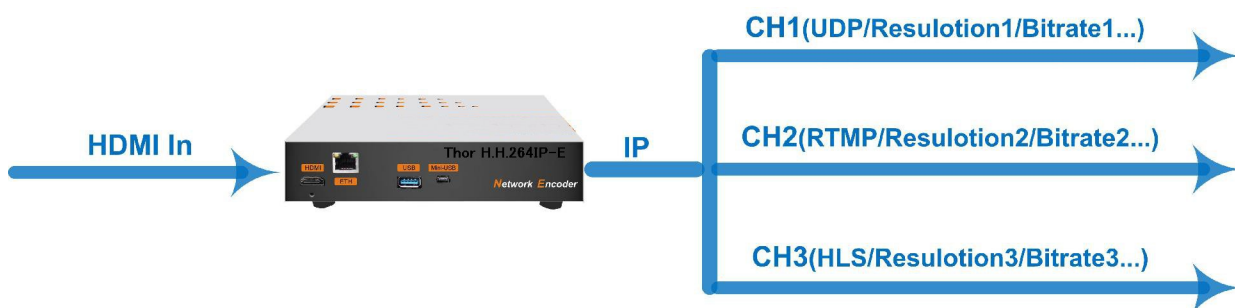
<http://thorbroadcast.com/sklep-204/produkt-237>

### **1.2 Key Features**

- **Easy set-up**
- **Watch and control your live and recorded TV shows anywhere, anytime**
- **Multiple streams out with different protocol/resolution/bitrate...**
- **Resolution downscale conversion**
- **HLS Protocol supports Apple terminals simultaneously running as per different resolution and bitrate setting**
- **USB port for TS recording and playing back, increase signal source options**
- **HDMI input**
- **IP Output over UDP(unicast/multicast), RTMP, HLS**

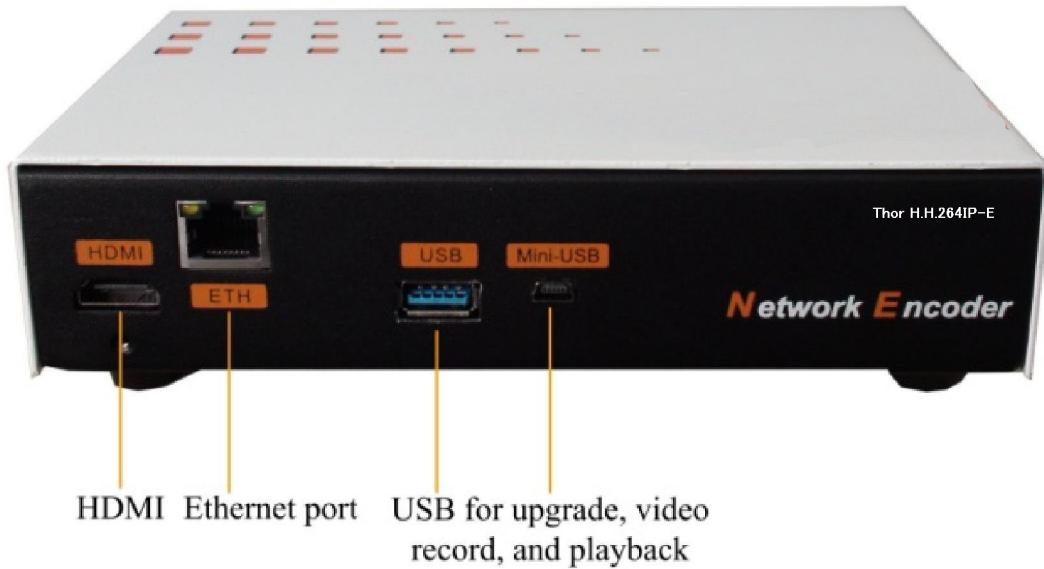
**1.3 Specifications**

<b>Encoder</b>	<b>HDMI input</b>	<b>Video</b>	<i>Resolution</i>	1920x1080_60p, 1920x1080_60i 1920x1080_50p,1920x1080_50i 1280x720_60p ,1280x720_50p 720x576_60i ,720x576_50i
			<i>Encoding</i>	MPEG-4 AVC/H.264
			<i>Bit rate</i>	1Mbps~15Mbps
	<b>Audio</b>	<i>Encoding</i>	MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC	
		<i>Sample rate</i>	48KHZ, 44.1KHZ(RTMP)	
		<i>Bitrate</i>	48,64, 96, 128kbps	
<b>Stream Out</b>	IP out over UDP (Unicast/multicast), RTMP, HLS (RJ45, 100/1000M self-adaption)			
<b>System</b>	<b>Remote control</b>	Web-server NMS		
	<b>Language</b>	English control interface		
	<b>Upgrade</b>	USB/NFS		
<b>General</b>	<b>Approx weight</b>	≤1Kg		
	<b>Operation temp.</b>	0~45 degrees Celsius		
	<b>Power supply</b>	DC12V		
	<b>Dimensions</b>	183*110*45mm		

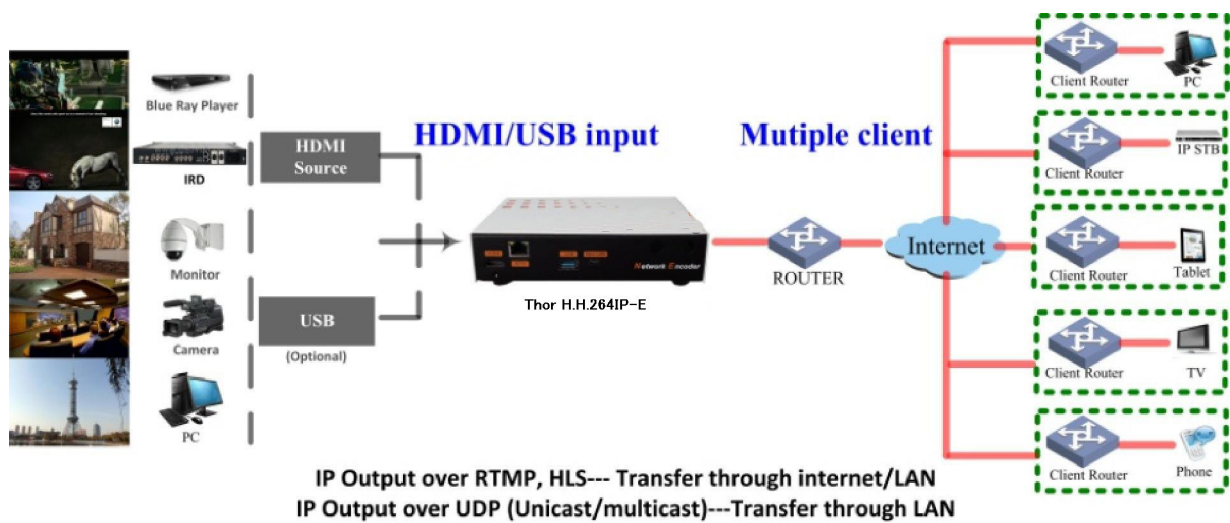
**1.4 Principle Chart**


**Multiple (up to 3) streams out with different protocol/resolution/bitrate...**

**1.5 Appearance and Description**




**1.6 System Connection Samples**




## Chapter 2 - Installation Guide


Please use caution when installing the device

### 2.1 Safety Instructions

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

 The network encoder 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 a power outlet if the power cord is damaged.
- Do not plug the device into socket until all cables have been connected correctly.
- Do not cut the cord.

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

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

If the network encoder has been kept in cool conditions for a long time, keep it in a warm room minimum 2 hours before plugging into the power supply.

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

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. Call Thor Fiber\*\*\*

## Chapter 3 – WEB NMS Operation

In order to operate this unit you must connect it to a workstation for control; the network encoder and USB device, users can just perform the operation with the web Brower in the PC (Personal Computer).

### 3.1 Login

The default IP address of this device is 192.168.200.64. (We can modify the IP through the front panel.)

Connect the PC and the network encoder with an ethernet cable, and use ping commands to confirm they are on the same network segment.

I.G. the device IP address is 192.168.200.64 we then change the PC IP to 192.168.200.xxx (xxx can be 1 to 254 except 64 to avoid IP conflict).

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

It will display the Login interface as shown in Figure-1. Input the Username and Password (Both the default Username and Password are "admin".) and then click "Login" to start the device.

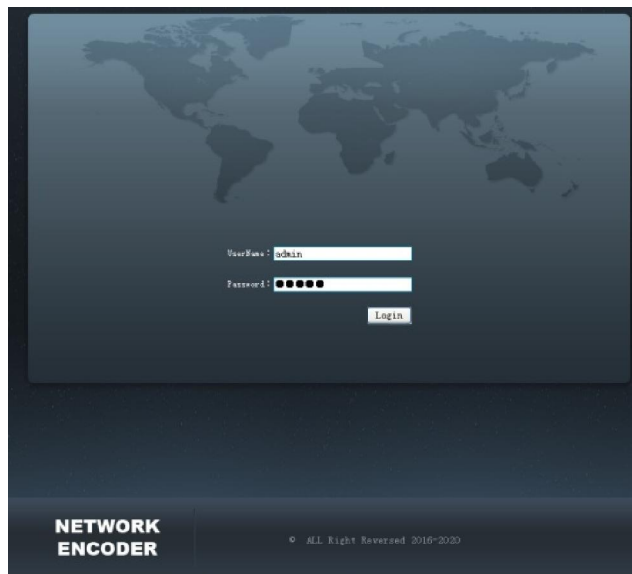


Figure-1



### 3.2 Operation

**Summary:**

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

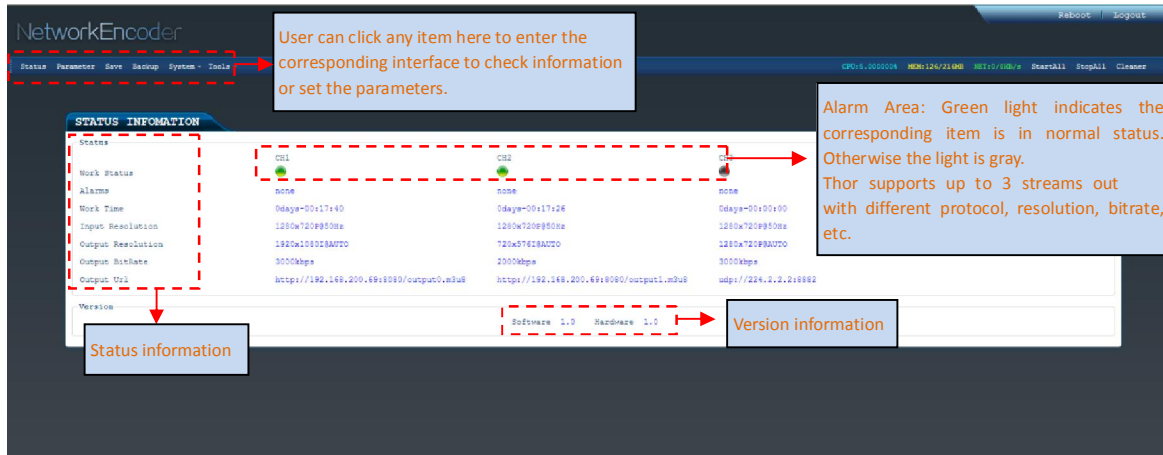


Figure-2

**Parameters → Channel 1/2/3:**

From the menu on the top side of the web gui, click “CH1” or “CH2” or “CH3”, it will then display the interface where you can configure the encoding parameters for the output channel. The Thor Broadcast H-H264IP-E supports up to 3 streams out with different protocol, resolution, bitrate, etc. (Figure-3)

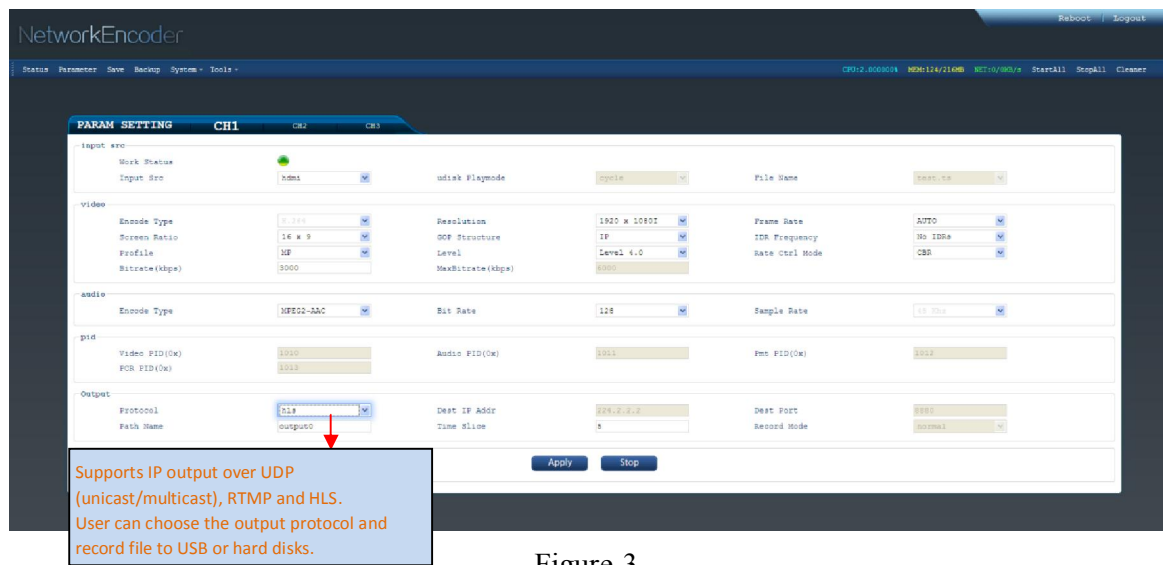


Figure-3

Click this button to apply the modified parameters.

**Save/Restore:**

From the menu on the top side of the webpage, click “Save/Restore”, it will display the screen as Figure-4 where to save or restore your configurations.

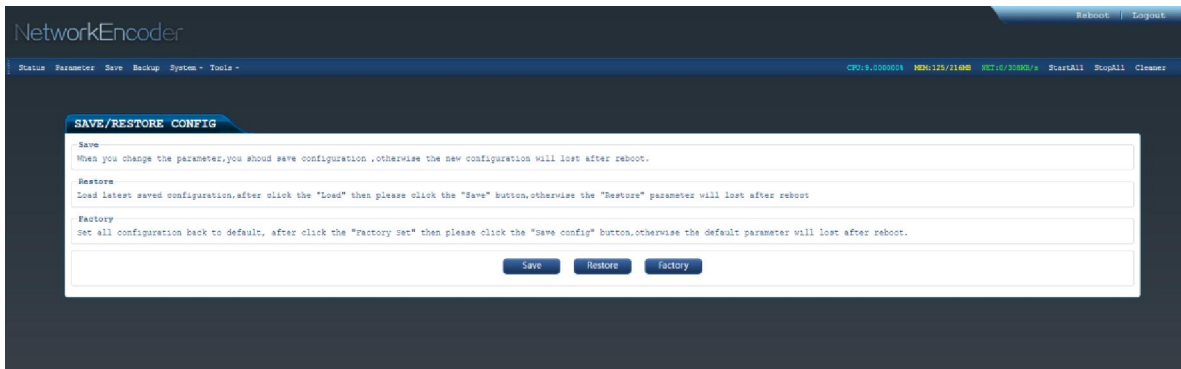


Figure-4

### Backup/Load:

From the menu on the top side of the webpage, click “Backup”, it will display the screen as Figure-5 where to backup or load your configurations.

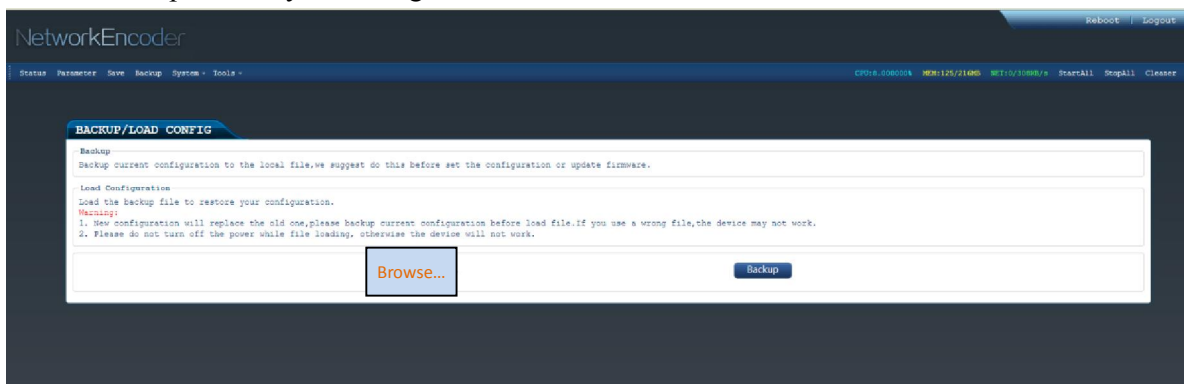


Figure-5

### System → Update (Web)/(App)/(CPU):

From the menu on the top side of the webpage, click “Update”, it will display the screen as Figure-6 where you can update the corresponding part for the device.

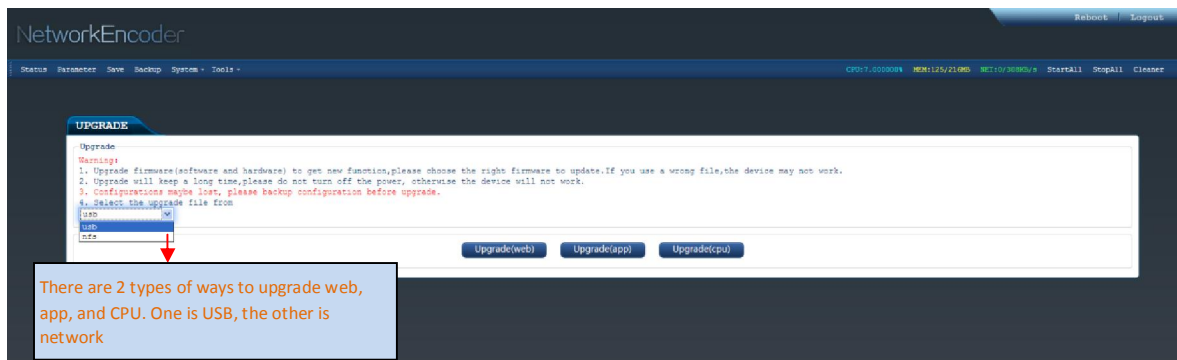


Figure-6

## Tools→NFS:

Before upgrading NFS, you should connect the NFS server IP by entering the NFS server IP address and server path.( Figure-7)

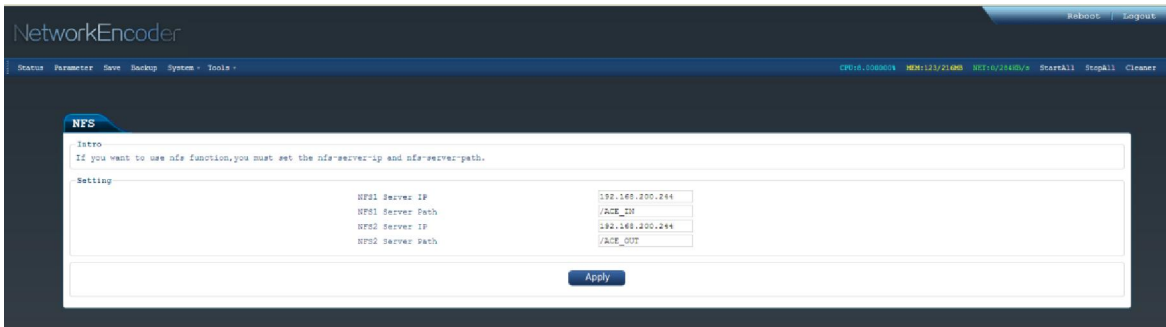


Figure-7

## System → Password:

From the menu on the top side of the webpage, click “Password”, it will display the screen as Figure-8 where to set the login account and password for the web NMS. (Figure-8)

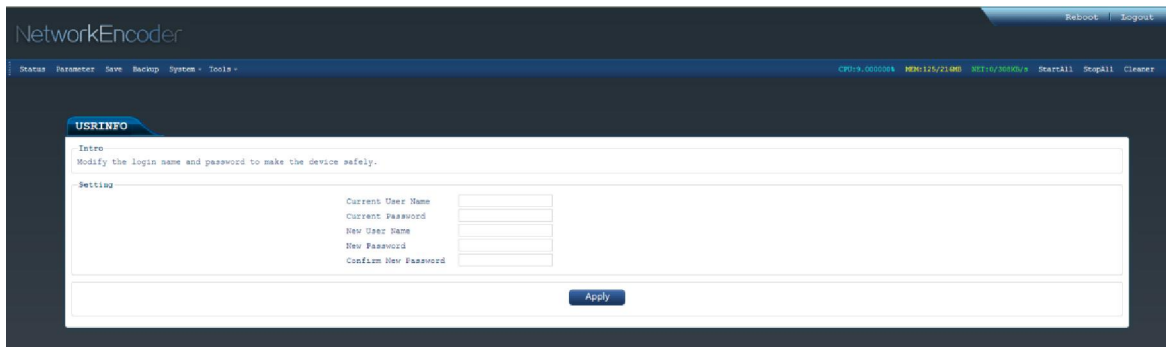


Figure-8

## System→Network:

Click ‘Network’, it will display the interface as Figure-9 where to set network parameters.

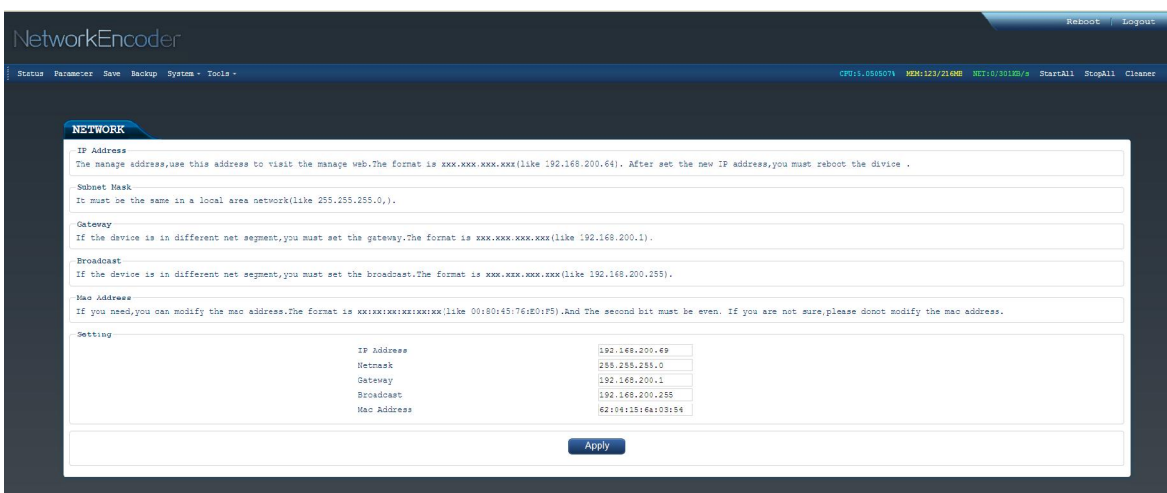


Figure-9

**Tools→Security:**

From the menu on the top side of the webpage, click “Security”, it will display the screen as Figure-10 where to disable or enable telnet function for the device.

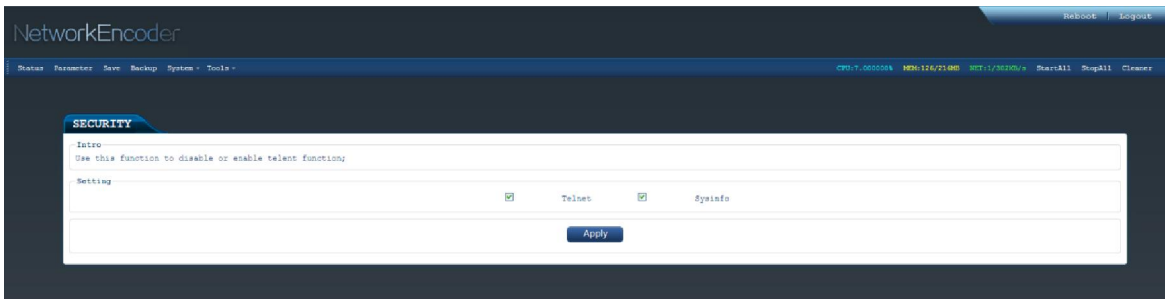


Figure-10

**Tools→RTMP:**

From the menu on the top side of the webpage, click “RTMP”, it will display the screen as Figure-11 where to set the RTMP flash player for the device.

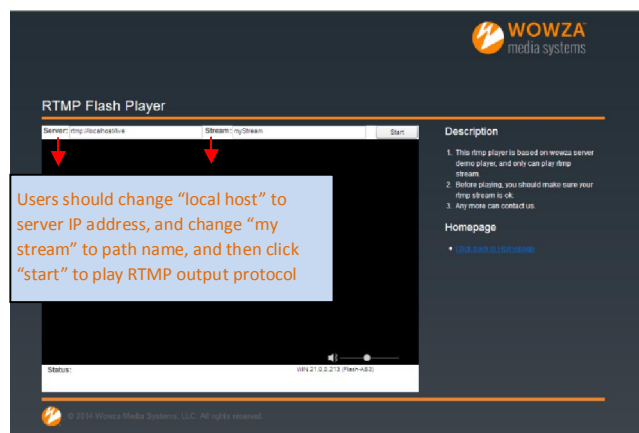


Figure-11

**USB:**

From the menu on up side of the webpage, clicking “USB”, it displays the interface where users can operate USB device. (Figure-12)

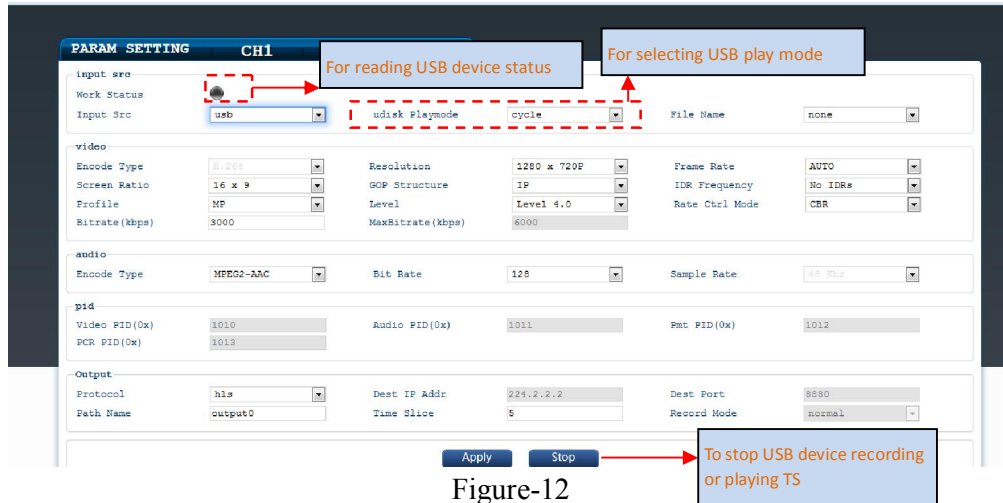





Figure-12

Before setting up USB, you should click “” to stop all output.

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

 **NOTE:** It is necessary to connect a USB device when operating the TS play function.

***Detailed Explanation:***

There are 3 record 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.
- “Cycle 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.

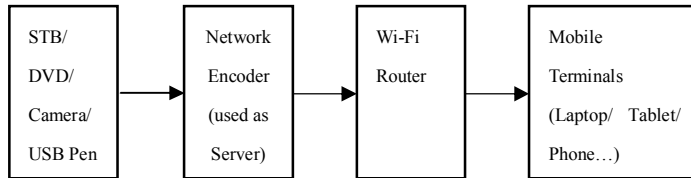
***Advanced Configurations:***

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 that name to the saved \*.ts files “Record-001.ts”, “Record-002.ts”... “Record-00N.ts”.

## Chapter 4 – Network Connection and Setup

### Situation : LAN network

This is applicable for users on a LAN network, like at home.



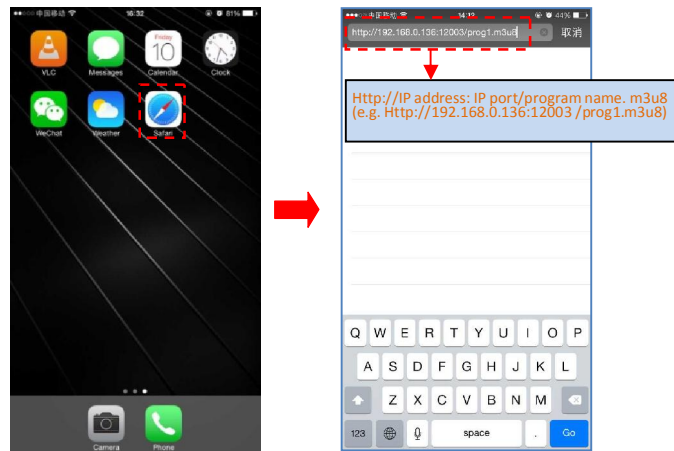
Steps:

1. Connect to STB/DVD etc with signal cable or insert USB memory with xx.ts files to provide signal source.
2. Connect to Wi-Fi router (Keep the encoder IP and router IP in the same network segment.)
3. Connect the Wi-Fi between the mobile terminals and the router.
4. Play the video/Audio

1) Play the video/audio on phone/Tablet **under HLS protocol**.

Apple devices can use “Safari” browser when HLS is applied as the output protocol, no need for any 3<sup>rd</sup> party player.

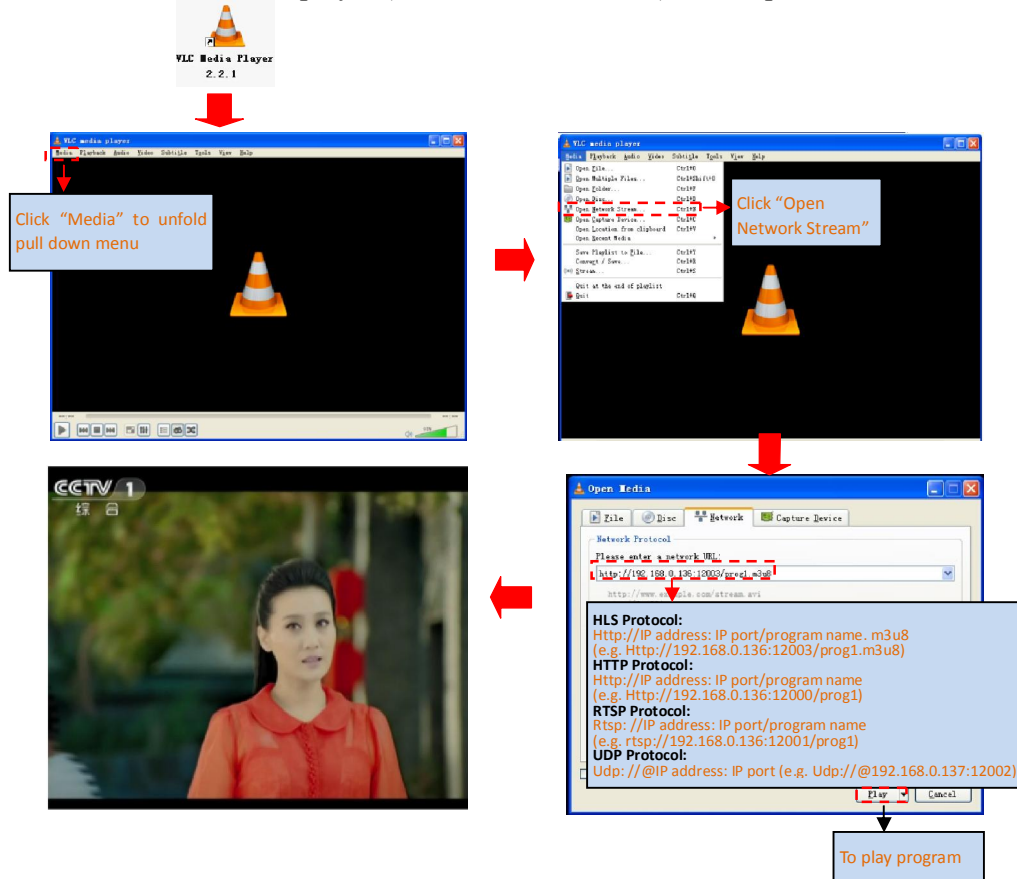
*\*\*Note: Android devices need to install “HLS plug-in” to play when HLS is applied*



2) Play the video/audio with media player (**VLC is recommended**) on phone/Tablet.



3) Play the video/audio with media player (**VLC is recommended**) on computer.



Here's a guide to what is needed in the receiving terminals when you watch through the H-H264IP-E network encoder.

	<b>Mobile Terminals</b>		<b>IP STB</b>	<b>PC</b>
	<i>IOS</i>	<i>Android</i>		
<b>UDP</b>	2	2	4	2
<b>RTMP</b>	2	2	4	1 or 2
<b>HLS</b>	1 or 2	2 or 3	4	2

- 1: Browser
- 2: 3rd Party Media Player like VLC, Buzz Player etc
- 3: Browser with HLS plug-in
- 4: Depends on the protocols supported by the STB



## **Chapter 5 - Troubleshooting**

THOR's ISO9001 quality assurance system has been approved by the CQC organization. We guarantee the products' quality, reliability and stability. All THOR products have passed all testing and manual inspections before they are shipped out. The testing and inspection scheme already covers all the Optical, Electronic and Mechanical criteria which have been published by THOR. To prevent a potential hazard, please strictly follow the operation conditions.

### **Prevention Measures**

- Installing the device in a place where the environmental temperature is between 0 to 45 °C
- Making sure the unit has plenty of ventilation for the heat-sink on the rear panel; and other heat-sink bores if necessary
- Checking the AC input within the power supply and ensure it is working, the connection is correctly installed before switching on device
- Checking all signal cables have been properly connected
- Frequently switching on/off device is prohibited; the interval between every switching on/off must be greater than 10 seconds.

### **Conditions needed to unplug power cord**

- Power cord or socket damage.
- Any liquid that got into the device.
- Any materials that could cause a circuit short
- Device in damp environment
- Device has suffered from physical damage; i.e. it fell off a rack.
- Longtime idle.
- After switching on and restoring to factory setting, device still won't work properly.
- Maintenance needed on device



H-H.264IP-E

## Chapter 6 -Packing List

H-H264IP-E Encoder	1PC
User's Manual	1PC
HDMI Cables	2PCS
Power Cord	1PC

**For Further Tech Support:**

**1-800-521-THOR(8467)**

**support@thorfiber.com**