



User Manual



**Networked HDMI HD Video to Coax digital
RF modulator with Closed Captioning**

H-HDMI-CC-RF

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A Note from Thor 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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Directory

Contents

CHAPTER 1 INTRODUCTION.....	1
1.1 PRODUCT OVERVIEW	1
1.2 KEY FEATURES.....	1
1.3 SPECIFICATIONS	2
1.4 APPLICATION DESIGN DRAWING	4
1.5 APPEARANCE AND DESCRIPTION	5
CHAPTER 2 INSTALLATION GUIDE	6
2.1 SAFETY INSTRUCTIONS.....	6
CHAPTER 3 WEB-PAGE MANAGEMENT	7
3.1 LOGIN	7
3.2 OPERATION	8
CHAPTER 4 PACKING LIST	12

Chapter 1 Introduction

1.1 Product Overview

The most unique and cost effective Networked Digital HDMI RF modulator with CC (closed captioning).

Designed to allow any HDMI source like an STB, satellite receiver, HDMI camera , DVD player, Computer,

ROKU converted to any RF TV channel of your choice

It is an all-in-one device integrating HD MPEG2 encoding with AC3 Dolby Audio and CC input with internal digital modulator. Converts HD audio / video signals from any device into DVB-C/T/ATSC/ISDB-T RF output.

Unit supports any HD source with the following video resolutions: 720p, 1080i, 1080p

The Closed Captioning input is CVBS - baseband video analog RCA input, it reads CC form the CVBS NTSC

Analog line 21

1.2 Key Features

- 1 HDMI channel in for encoding & 1 CC input port
- MPEG-2 video encoding
- MPEG1 Layer 2 audio encoding & Dolby AC3
- DVB-C/T/ATSC/ISDB RF output options
- Web management NMS via RJ45
- Compact Form Factor
- Easy to setup

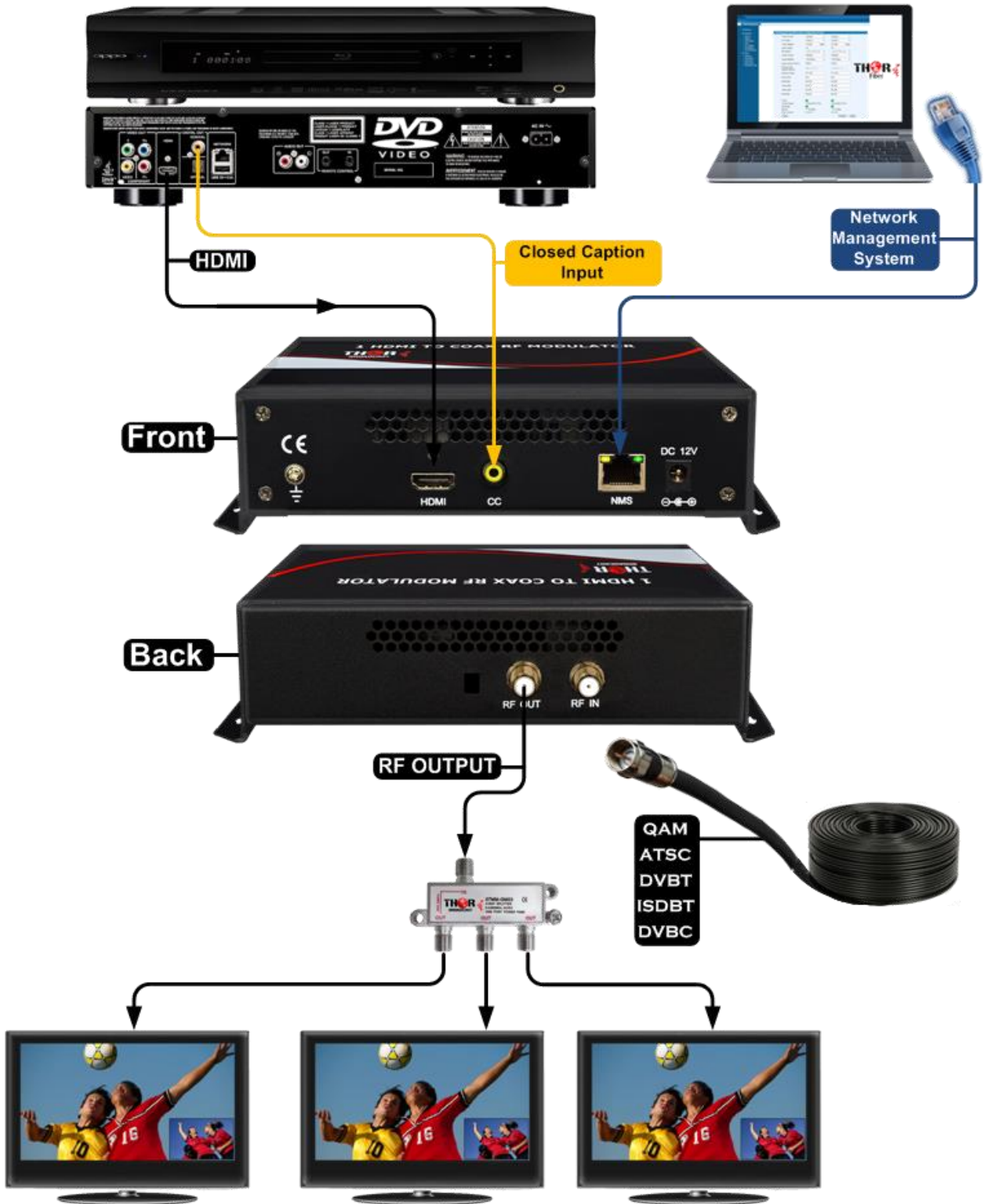
1.3 Specifications

HDMI Encoding Section			
Video	Encoding	MPEG2	
	Interface	HDMI*1	
		Input	Output
	Resolution	480@59.94/60i	480@30p
		576@50i	576@25p
		720@50/59.94/60p	720@25/30p
		1080@50i	1080@25p
		1080@59.94/60i	1080@30p
		1080@50p	1080@25p
		1080@59.94/60p	1080@30p
Aspect Ratio	16:9		
Bit rate	1.000~20.000 Mbps		
Audio	Encoding	MPEGI layer 2, AAC, AC3	
	Sample rate	48KHz	
	Bit rate	MPEGI layer 2: 192kbps	
		MPEGI layer 2 AAC: 18~297kbps	
		AC3: 128kbps	
DVB-C Modulator Section			
Standard	J.83A (DVB-C), J.83B		
MER	≥35dB		
RF frequency	100-1000MHz, 1KHz step		
RF output level	0~ 47dbm (44~90 dbμV), 1db step		
Symbol rate	3.000~7.000Msps adjustable		
	J.83A	J.83B	
Constellation	16/32/64/128/ 256 QAM	64/ 256 QAM	
Bandwidth	8M	6M	
DVB-T Modulator Section			
Standard	DVB-T COFDM		
Bandwidth	2M, 3M, 4M, 5M, 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, 8K		
MER	≥35dB		
RF frequency	100-1000MHz, 1KHz step		
RF output level	0~ 47dBm, 1db step		
ISDB Modulator Section			

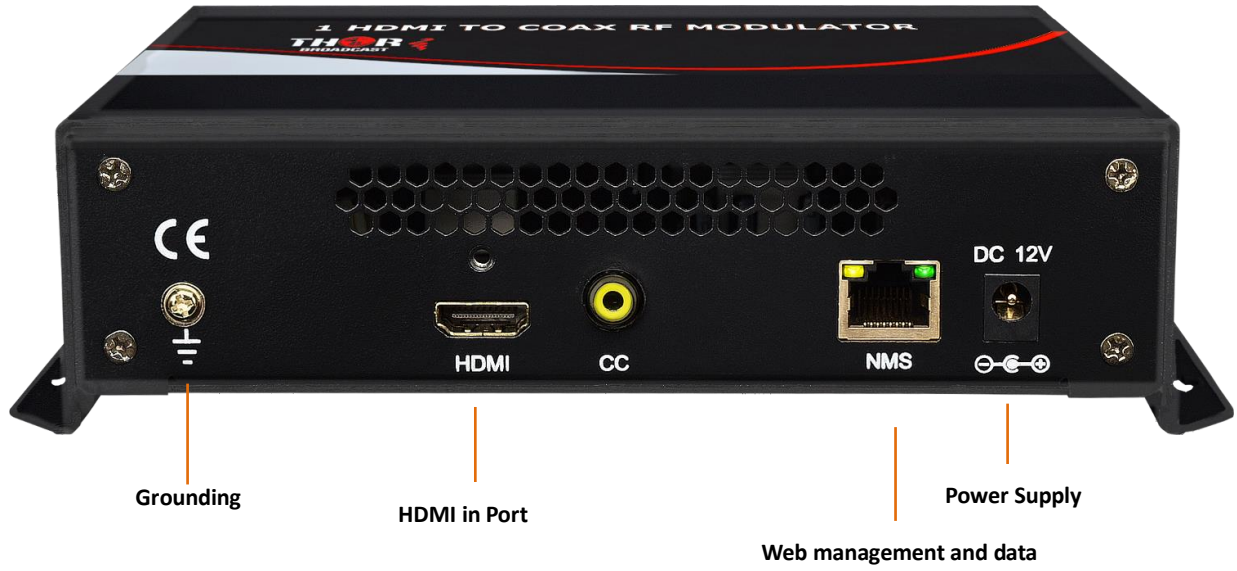
Standard	ARIB STD-B31
Constellation	QPSK, 16QAM, 64QAM
Guard Interval	1/32, 1/16, 1/8, 1/4
Transmission Mode	2K, 4K, 8K
Code rate	1/2, 2/3, 3/4, 5/6, 7/8
RF frequency	100~1000MHz, 1KHz step
ATSC Modulator Section	
Standard	ATSC A/53
Constellation	8 VSB
RF output level	0~47dbm (44~90 db μ V), 1db step
MER	\geq 35dB
RF frequency	100~1000MHz, 1KHz step
System	
Management	Web
Language	English
Upgrade	Web update
General	
Power supply	DC 12V
Dimensions	203*144*52mm
Weight	< 1kg

1.4 Application Design Drawing

1 HDMI TO COAX RF MODULATOR



1.5 Appearance and Description



Chapter 2 Installation Guide

Please use caution when operating this device in order to abstain from any possible injury during installation. For this reason, please read all details listed below and make and use caution before proceeding to operate and use this electronic equipment.

2.1 Safety Instructions

- Must be operated and maintained in an area free of dust and debris.
- The cover should be securely fastened, do not open the cover of the chassis when the power is on. This will also void Thor's manufacturer's warranty.
- After installation, securely stow away all loose cables, external antenna, and others.
- Be careful when connecting a power source to the device.
- Do not operate in wet or damp areas. Make sure the extension cable is in good condition
- Make sure the power switch is off before you start to install the device

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

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

If the network encoder 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 Thor Broadcast. Unauthorized substitutes may result in fire, electric shock or severe malfunction which will not be covered by Thor's Warranty.

Chapter 3 Web-page Management

You can alter the same settings through a computer by connecting the device to the web NMS Port. Always make sure that the computer's IP address is different from the Units IP address; otherwise, it will cause an IP conflict. Below is an explanation of how you can adjust settings through a web portal.

3.1 Login

The default IP address is 192.168.0.136 and you can connect the device and web NMS through this IP address.

Connect the PC (Personal Computer) and the device with an Ethernet cable, and use ping command to confirm that they are on the same network segment. For instance, the PC IP address is 192.168.99.252, we then change the device IP to 192.168.99.xxx (xxx can be 0 to 255 except 252 to avoid IP conflict).

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

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

3.2 Operation

When we confirm the login, it displays the Homepage as in Figure-2 where you can have an overview of the device’s system information.

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

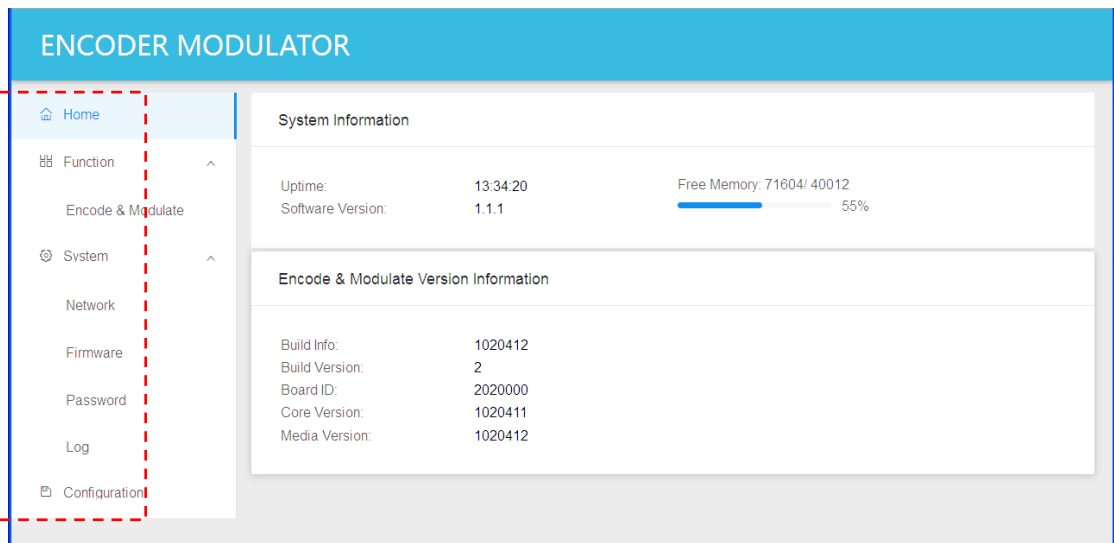


Figure-2

Function →: Encode & Modulate

From the menu on left side of the webpage, click “Encoder & Module”, it displays the interface where you can configure the encoder parameters and select the modulating standard.

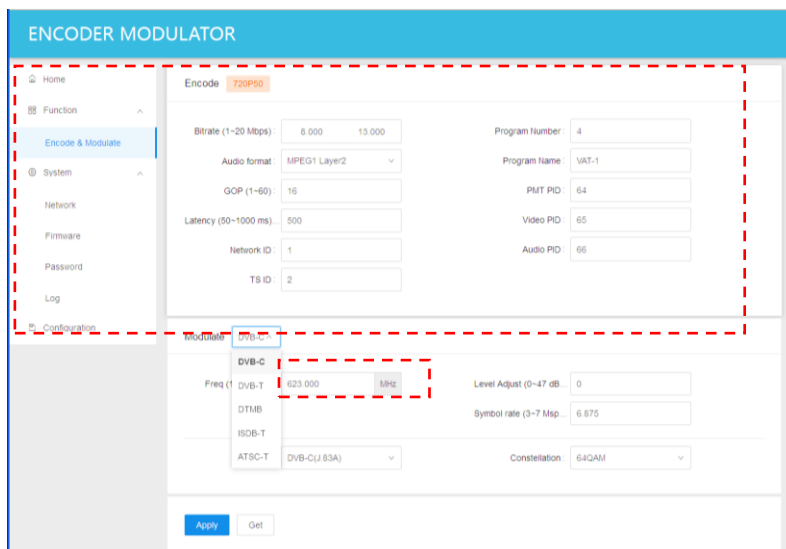


Figure-3

System →: Network

Click “Network, it will display the interface as in Figure-4 where to set network parameters.

Here you can change the device network configuration as needed.

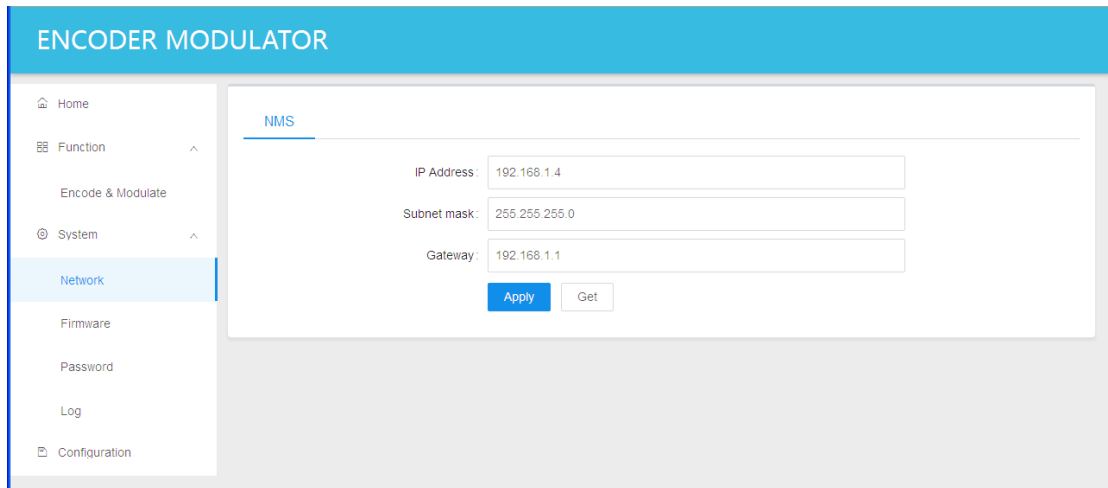


Figure-4

System →: Firmware

From the menu on left side of the webpage, clicking “Firmware”, it will display the screen as in Figure-5.

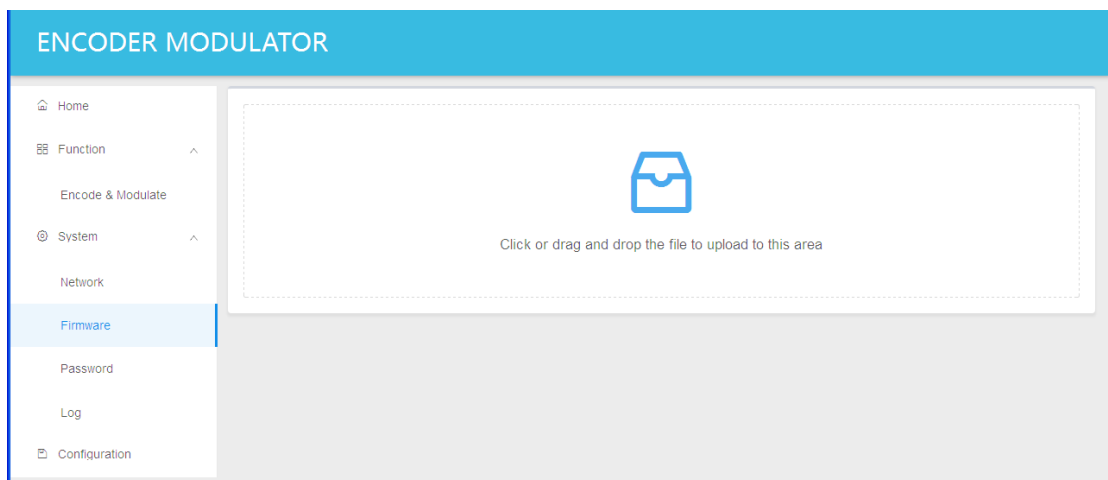


Figure-5

System →: Password

From the menu on left side of the webpage, click “Password”, it will display the screen as in Figure-6 where to set the login account and password for the web NMS. After inputting the

current and new Username and Password, click “Apply” to save the configuration.

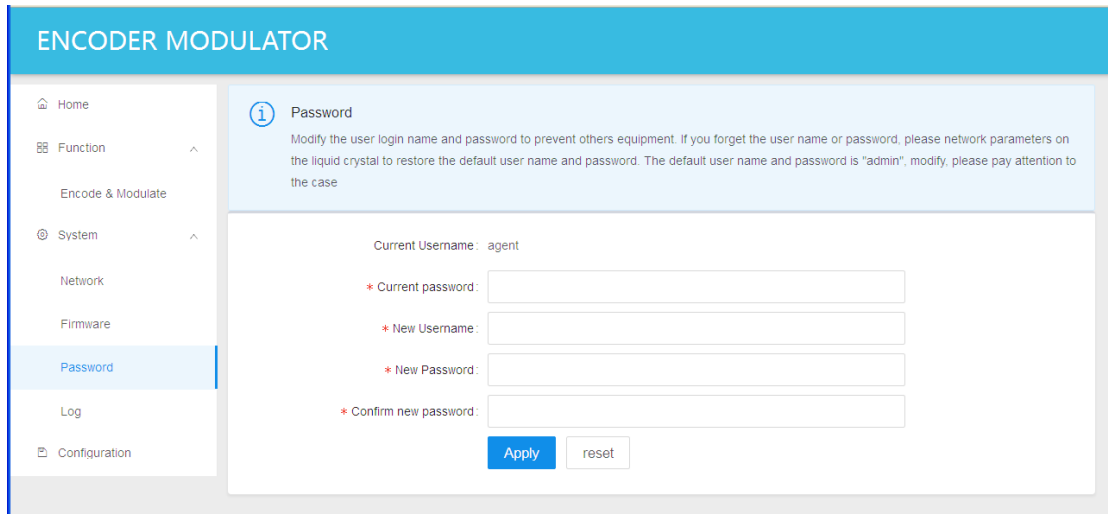


Figure-6

System →: Log

From the menu on left side of the webpage, click “Log”, it will display the screen as in Figure-7.

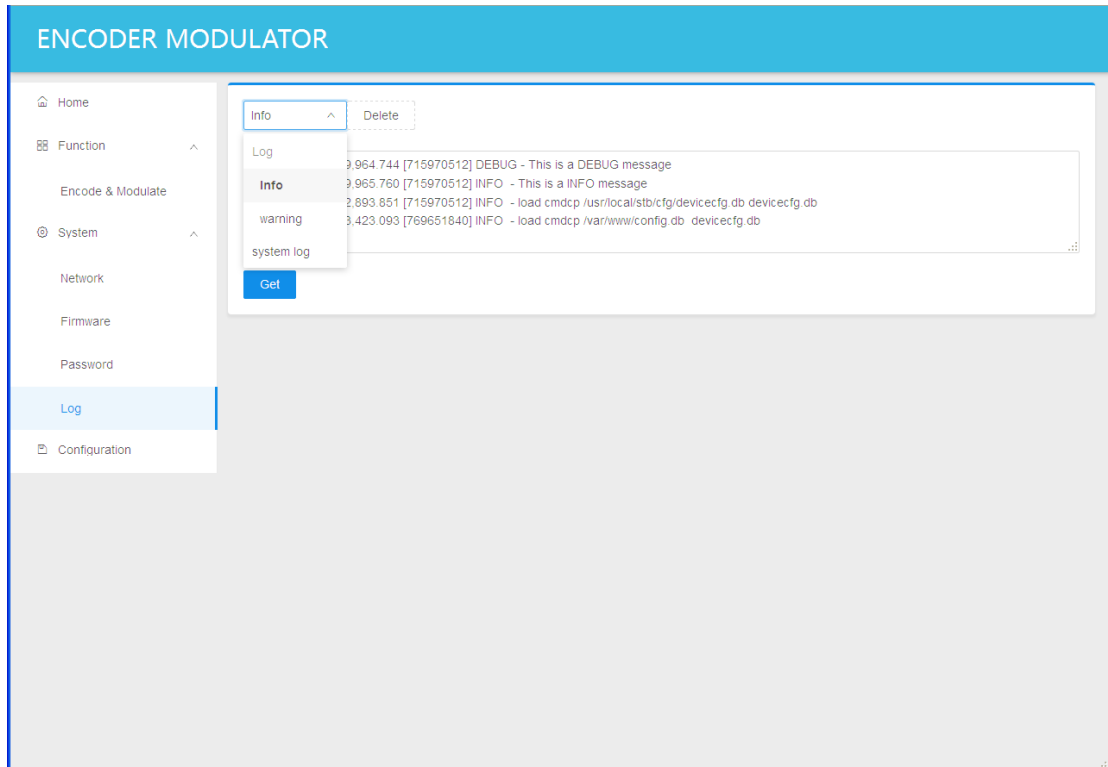


Figure-7

Configuration:

From the menu on left side of the webpage, click “Configuration”, it will display the screen as in Figure-8.

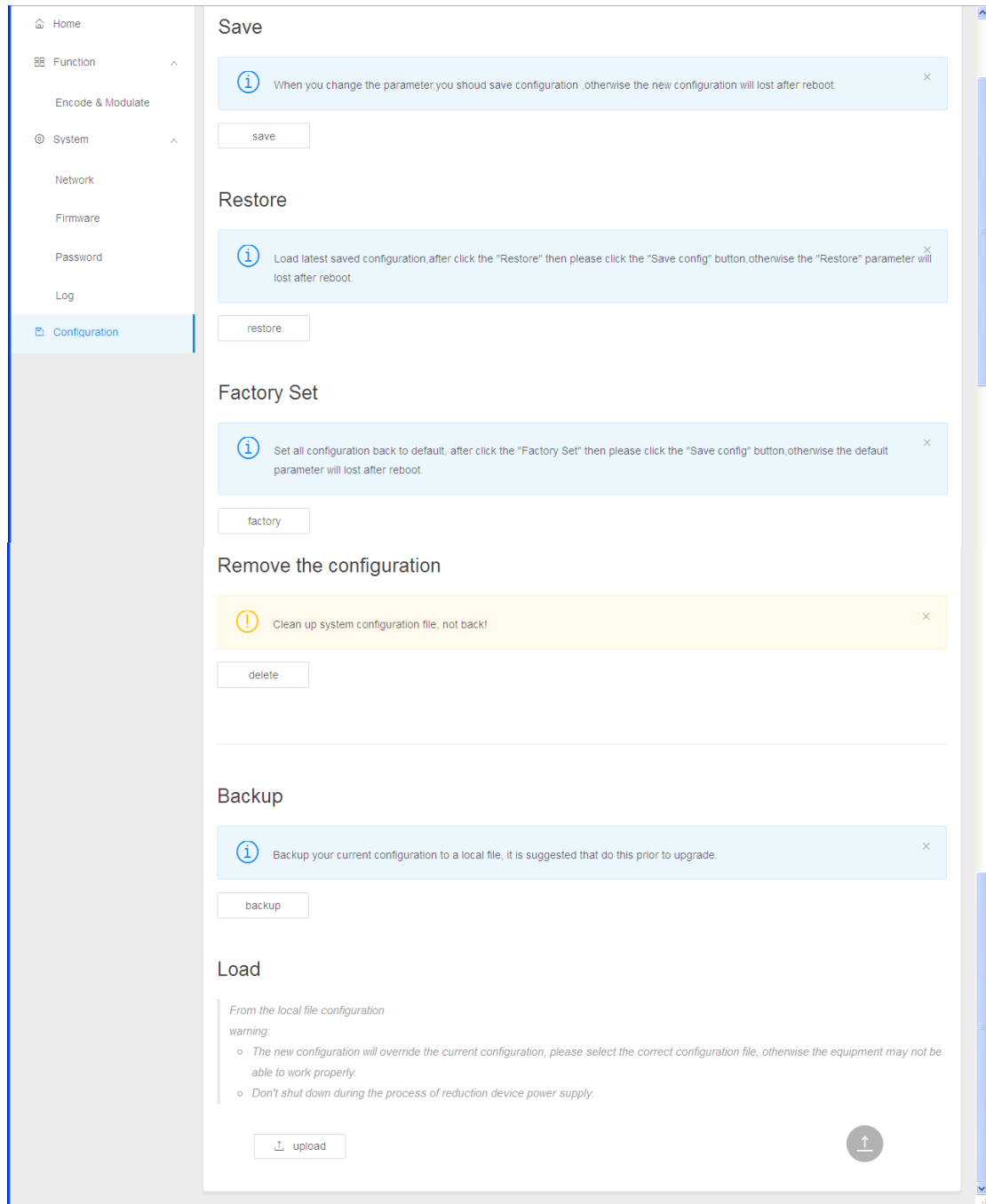


Figure-8

Chapter 4 Packing List

H-HDMI-CC-RF	1PC
User Manual	1PC
Power Cord	1PC

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