User Manual

8 IP to 8 Analog Video - Audio CVBS OUT

H-8IP-8CVBS

About This Manual

Intended Audience

This user manual has been written to help people who have to use, to 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

Chapter 1 Product Outline

1.1 Outline

H-8IP-8CVBS is a digital decoder designed by THOR Digital Technology with proprietary intellectual property rights.

It is a 1-U case which supports digital TS input viaboth IP and ASI.After decoding process, it outputs as much as 8 channels of analog A/V signals. Its pluggable structure design greatly facilitates the change of decoder modules as needed.

To meet customers' various requirements, H-8IP-8CVBSis also equippedASI output to transfer the TS to other equipment for more purposes.
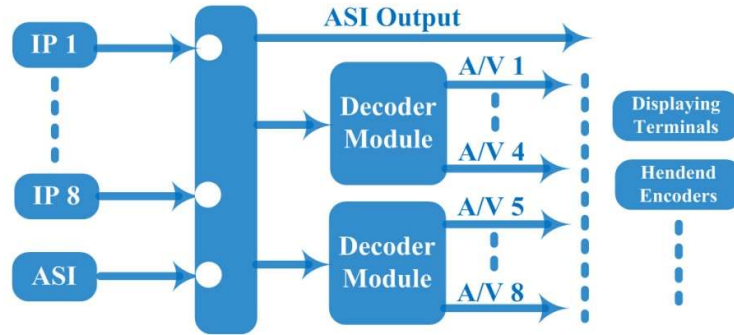
1.2 Features

- **4*IP and 1*ASI input**
- **MPEG-2/H.264/AVS+ Video Decoding, MPEG1 Lay2/AC3 (2.0) Audio Decoding**
- **8*CVBS video/unbalanced stereo audio decoding out**
- **Real-time bit rate monitoring**
- **High reliability design, stable performance**
- **Easy manage with LCD and web-server remote control**
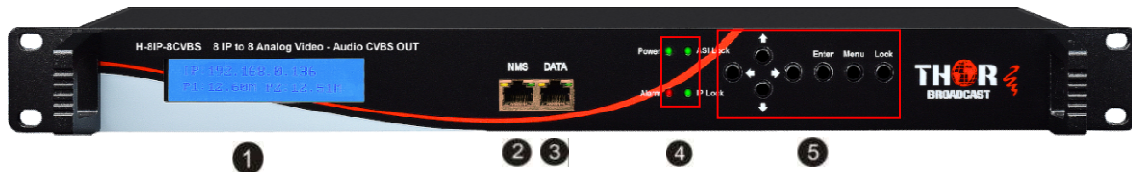
1.3 Specifications

Input	8*IP (MPTS/SPTS) (100Mbps Ethernet) (RJ45)	
	IP Protocol	UDPand RTP (Unicast/multicast)
	1* ASI(BNC)	
Decode	Video Format	MPEG-2/H.264/AVS+
	Interface	8*CVBS（RCA）
	Video Resolution	576i@25fps, 480i@29.97fps
	Audio Format	MPEG-1 Layer 2, AC3 (2.0)
	Interface	8*Unbalanced stereo (RCA)
General	Operation	LCD display/Control button; Web-server
	Language	English
	Dimension (LxWxH)	44 mm×482 mm×410mm
	Environment	0~45℃(Work)；-20~80℃(Storage)
	Power Supply	220VAC±10%，50Hz
	Consumption	<25W

1.4 Principle Chart

1.5 Appearance and description

Front Panel Illustration:

1	LCD Display
2	NMS Port (for PC connection)
3	DATA Port (for IP stream input)
4	Indicators Area: Power: to indicate to power supply Alarm: to indicate the system error ASI Lock: to indicate the ASI input signal lock status IP Lock: to indicate the IP input signal lock status The other two are not applicable
5	Up/Down/Left/Right Buttons
	Enter Key
	Menu Key
	Lock Key

Rear Panel Illustration:

1	Decoder Module 1 (for A/V output 1-4)
2	Decoder Module 2 (for A/V output 5-8)
3	ASI input Port
4	ASI output Ports (Mirrored out)
5	Power switch/Fuse/Socket
6	Grounding Wire

Chapter 2 Installation Guide

2.1 Acquisition Check

When user opens the package of the device, it is necessary to check items according to packing list. Normally it should include the following items:

- H-8IP-8CVBS decoder1pcs
- User's Manual   1pcs
- CVBS Cables8sets
- Power Cord   1pcs

If any item is missing or mismatching with the list above, please contact our company.
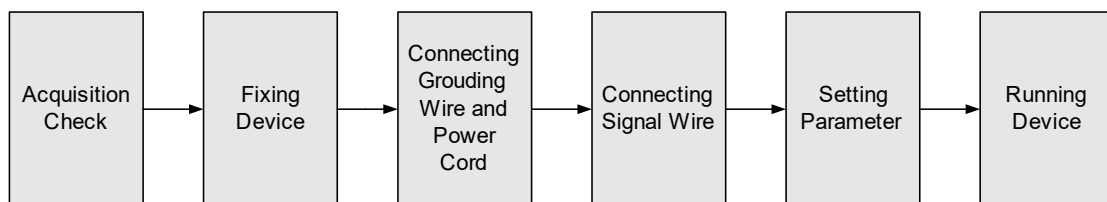
2.2 Installation Preparation

When users install device, please follow the below steps. The details of installation will be described at the rest part of this chapter. Users can also refer rear panel chart during the installation.

The main content of this chapter including:

- Checking the possible device missing or damage during the transportation
- Preparing relevant environment for installation
- Installing modulator
- Connecting signal cables
- Connecting communication port (if it is necessary)

2.2.1 Device's Installation Flow Chart Illustrated as following：

Acquisition Check → Fixing Device → Connecting Grouding Wire and Power Cord → Connecting Signal Wire → Setting Parameter → Running Device

2.2.2 Environment Requirement

Item	Requirement
Machine Hall Space	When user installs machine frame array in one machine hall, the distance between 2 rows of machine frames should be 1.2~1.5m and the distance against wall should be no less than 0.8m.
Machine Hall Floor	Electric Isolation, Dust Free Volume resistivity of ground anti-static material:$1X10^7 \sim 1X10^{10\Omega}$, Grounding current limiting resistance: 1M (Floor bearing should be greater than 450Kg/m²)
Environment Temperature	5~40℃(sustainable) , 0~45℃(short time) , installing air-conditioning is recommended
Relative Humidity	20%~80% sustainable 10%~90% short time
Pressure	86~105KPa
Door & Window	Installing rubber strip for sealing door-gaps and dual level glasses for window
Wall	It can be covered with wallpaper, or brightness less paint.
Fire Protection	Fire alarm system and extinguisher
Power	Requiring device power, air-conditioning power and lighting power are independent to each other. Device power requires AC power 100-240V 50-60Hz. Please carefully check before running.

2.2.3 Grounding Requirement

● All function modules' good grounding is the basis of reliability and stability of devices. Also, they are the most important guarantee of lightning arresting and interference rejection. Therefore, the system must follow this rule.

● Coaxial cables outer conductor and isolation layer should keep proper electric conducting with the metal housing of device.

● Grounding conductor must adopt copper conductor in order to reduce high frequency impedance, and the grounding wire must be as thick and short as possible.

- Users should make sure the 2 ends of grounding wire well electric conducted and be antirust.
- It is prohibited to use any other device as part of grounding electric circuit
- The area of the conduction between grounding wire and device's frame should be no less than 25mm^2.

2.2.4 Frame Grounding

All the machine frames should be connected with protective copper strip. The grounding wire should be as short as possible and avoid circling. The area of the conduction between grounding wire and grounding strip should be no less than 25mm^2.

2.2.5 Device Grounding

Connecting the device's grounding rod to frame's grounding pole with copper wire.

2.3 Wire's Connection

The grounding wire conductive screw is located at the right end of rear panel, and the power switch, fuse, power supply socket is just beside ,whose order goes like this, power switch is on the left ,power supply socket is on the right and the fuse is just between them.

- Connecting Power Cord

  User can insert one end into power supply socket, while insert the other end to AC power.

- Connecting Grounding Wire

  When the device solely connects to protective ground, it should adopt independent way, say, share the same ground with other devices. When the device adopts united way, the grounding resistance should be smaller than 1Ω.

☞Caution:

Before connecting power cord tothe decoder, user should set the power switch to "OFF".

2.4 Signal Cable Connection

The signal connections include the connection of input signal cable and the connection of output signal cable. The details are as follows:

2.4.1H-8IP-8CVBS Decoder Cables Illustration:

- **IP Input/NMS management cable Illustration:**

- **ASIInput/output Cable Illustration:**

- **CVBS & Audio output Cable Illustration: (for connection between the decoderanddisplaying terminals or head-endencoders such as TV set or SD encoders)**

Chapter 3 Operation

The front panel of H-8IP-8CVBS decoderis the user-operating interface and the equipment can be conveniently operated and managedby user according to the proceduresdisplayed on the LCD:

Keyboard Function Description:

MENU: Cancel current entered value, resume previous setting; Return to previous menu.

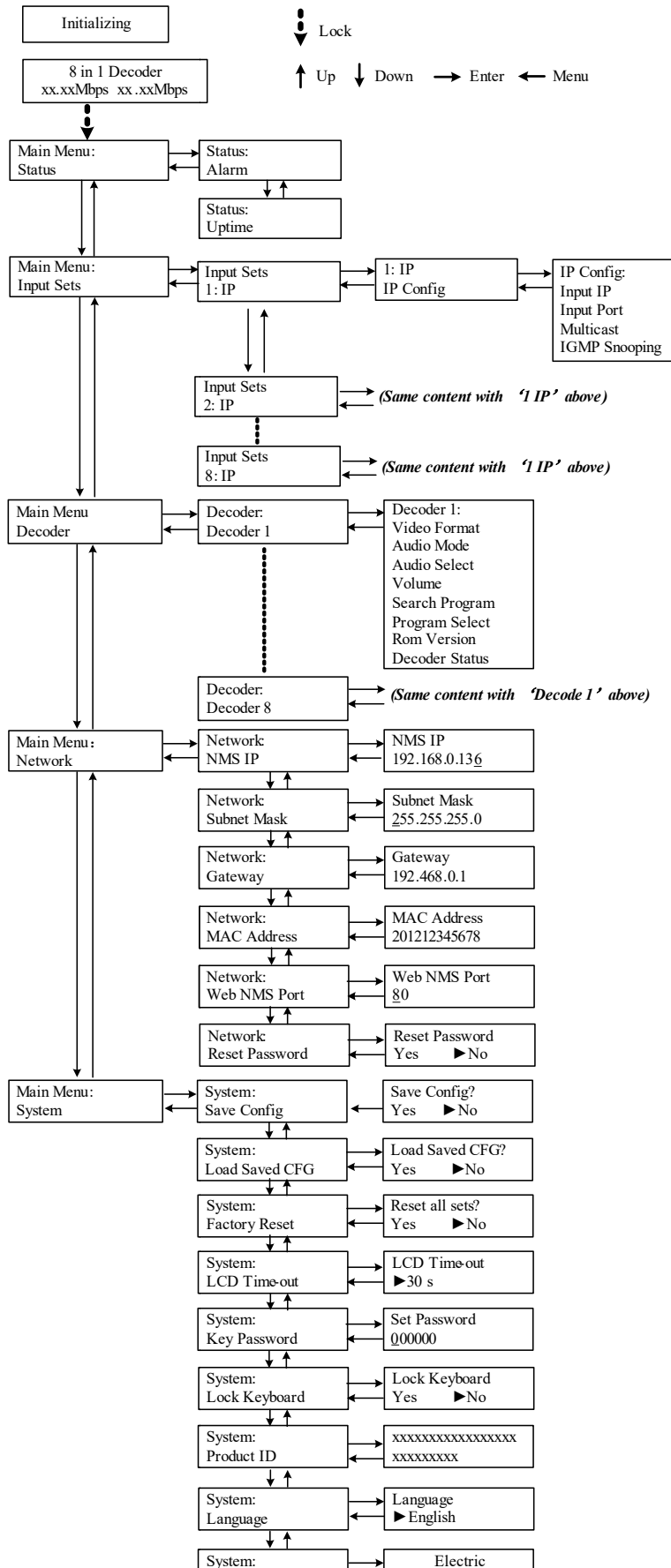**ENTER:**Activatethe parameters which need modifications, or confirmthe change after modification.

LEFT/RIGHT: Choose and set the parameters.

UP/DOWN: Modify activated parameter or paging up/down when parameter is inactivated.

LOCK: Lock the screen/cancel the lock state. After pressing the lock key, the LCD will display the current configuring state.

## 3.1LCD Menu Class Tree

(See next page :)

Initializing

⋮ Lock

↑ Up   ↓ Down   → Enter   ← Menu

8 in 1 Decoder
xx.xxMbps xx.xxMbps

Main Menu:
Status
→ Status:
Alarm
→ Status:
Uptime

Main Menu:
Input Sets
→ Input Sets
1: IP
→ 1: IP
IP Config
→ IP Config:
Input IP
Input Port
Multicast
IGMP Snooping

Input Sets
2: IP
→ *(Same content with '1 IP' above)*

Input Sets
8: IP
→ *(Same content with '1 IP' above)*

Main Menu
Decoder
→ Decoder:
Decoder 1
→ Decoder 1:
Video Format
Audio Mode
Audio Select
Volume
Search Program
Program Select
Rom Version
Decoder Status

Decoder:
Decoder 8
→ *(Same content with 'Decode 1' above)*

Main Menu：
Network
→ Network:
NMS IP
→ NMS IP
192.168.0.136

Network:
Subnet Mask
→ Subnet Mask
255.255.255.0

Network:
Gateway
→ Gateway
192.468.0.1

Network:
MAC Address
→ MAC Address
201212345678

Network:
Web NMS Port
→ Web NMS Port
80

Network:
Reset Password
→ Reset Password
Yes   ►No

Main Menu:
System
→ System:
Save Config
→ Save Config?
Yes   ►No

System:
Load Saved CFG
→ Load Saved CFG?
Yes   ►No

System:
Factory Reset
→ Reset all sets?
Yes   ►No

System:
LCD Time-out
→ LCD Time-out
►30 s

System:
Key Password
→ Set Password
000000

System:
Lock Keyboard
→ Lock Keyboard
Yes   ►No

System:
Product ID
→ xxxxxxxxxxxxxxxxx
xxxxxxxxx

System:
Language
→ Language
►English

System:
→ Electric

3.2 General Setting

Switch on the device and after a few seconds' initialization, itpresentsstart-up pictures as below:

Start up…	⇨	Start OK…	⇨	8 in 1 Decoder xx.xxx Mbps xx.xxx Mbps
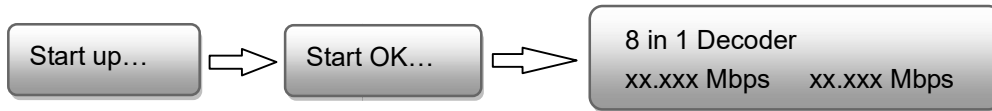
- **8 in 1 Decoder**: Device's name
- **xx.xxx MHz** indicates the current bitrate.

Press LOCK keyon the front panel to enter the main menu. The LCD will display the following pages where user can configure the parameters for the device:

```
Main menu
▶ 1 Status
   2 Input Sets
   3 Decoder
   4Network
   5 System
```
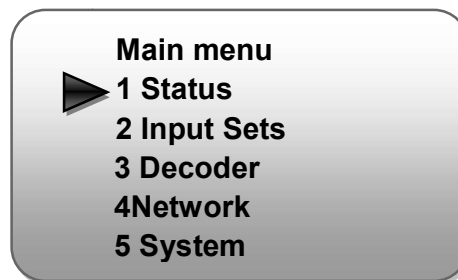
User could do all the settings according to the 8 directions displayed on the LCD. User can press UP/DOWN buttons to specify menu item, and then press ENTER to enter the submenus as below:

3.2.1Status

Alarm: The alarm indicator will turn on if there is no A/V signals inputting or outputting bit rate overflows. User then can enter this menu to check the error type. Otherwise it shows the 'system is normal'.
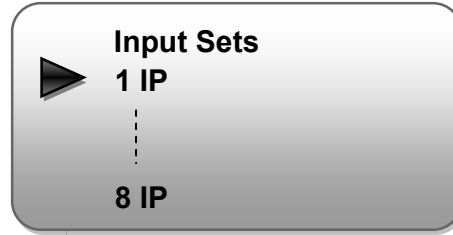
```
Alarm
System is normal
```
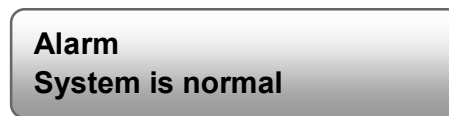
Uptime: It displays the working time duration of the device. It times upon power on.
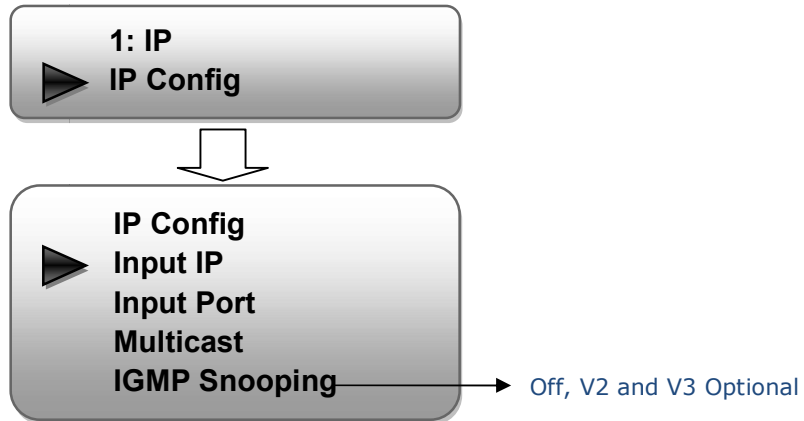
```
Uptime
1 Day(s) 03:30:02
```
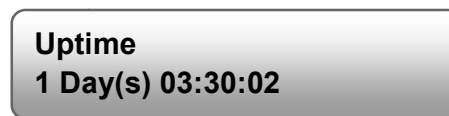
3.2.2 Input Sets

H-8IP-8CVBSsupports8 IP stream input. Users can enter 'Input Sets' to configure the IP

parameters to receive the transport streams. It displays as below:

```
       Input Sets
  ►    1 IP
       ┊
       8 IP
```

The setting principle is the same for IP 1-8, so here this manual just takes one channel as the example to explain. After pressing the enter key, the LCD will display the following page:
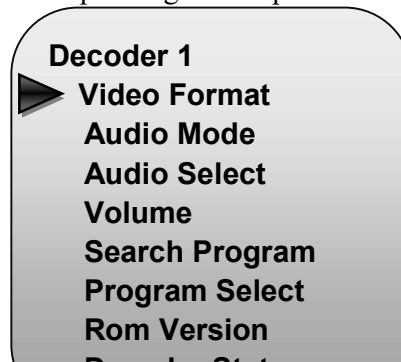
```
       1: IP
  ►    IP Config
```

```
       IP Config
  ►    Input IP
       Input Port
       Multicast
       IGMP Snooping ─────────► Off, V2 and V3 Optional
```

3.2.3Decoder

Users can press ENTER key to enter'Decoder' to select the channel to be decoded.H-8IP-8CVBSdecoder supports 8separate decoded videos/audios output at the same time.

```
       Decoder
  ►    Decoder 1
       Decoder 2

       Decoder 8
       ┊
```
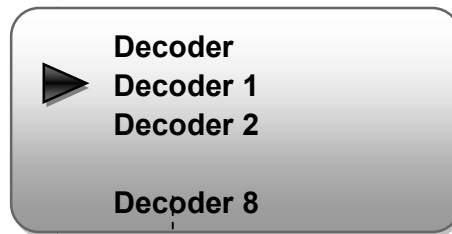
Decoder 1 to 8 is for setting the eight decoded programs respectively. The program selected to decode will output through corresponding CVBS port.

```
       Decoder 1
  ►    Video Format
       Audio Mode
       Audio Select
       Volume
       Search Program
       Program Select
       Rom Version
       Decoder Status
```

➢ **Video Format**

Users can set the equipment video format in this interface, and the LCD will display the following interfaces after users pressing the enter key.

The current option

> **Video Format   (1/3)**
> ▶ **Auto** ——————→ Auto, PAL, NTSC optional
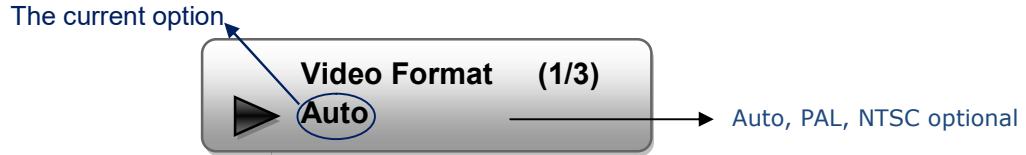
NOTE: Below explanationsare applied in this entire manual.

1) When user enters thissubmenu, '1/3' means the current page is 1, and the total page is 3. When user presses ENTER **again** to enter the operation interface.

2) Press UP/DOWN buttons to specify the item , and then press Enter key to confirm

---

➢ **Audio Mode**

Users can choose the Audio Mode by pressing ENTER to enter this submenu. The LCD will display as below:

> **Audio Mode   (1/3)**
> ▶ **Stereo**

Stereo: to process both the input right and left audios and output a stereo.

Left: "Stereo left" means when the device processes the input audio, it shields the right channel and copies the left channel to output a stereo.

Right: "Stereo right" means when the device processes the input audio, it shields the left channel and copies the right channel to output a stereo.

➢ **Audio Select**

Under this menu, user can choose the Audio Track,and press ENTER key to save the settings.

> **Audio Select**
> ▶ **Track 1-chi**

➢ **Volume**

Move the underline with LEFT/RIGHT keys and modify the value of frequency with UP/DOWN keys, and press ENTER key to save the settings. (0-100 adjustable)
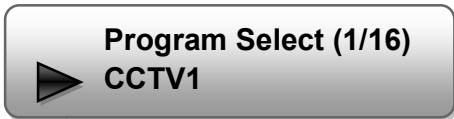
> **Volume**

➤ **Search Program**

Press ENTER key to search thequantityof input programs.

```
Searching Program
Get 16 Programs
```

➤ **Program Select**

"Program Select" is for selecting one program to outputthrough the corresponding CVBS/LR port.

```
Program Select (1/16)
▶ CCTV1
```

➤ **Rom Version/Decoder Status**

User can check the Rom Version and Decoder Status under this interface.

```
Rom Version
4.1
```

```
Decoder Status
Normal
```
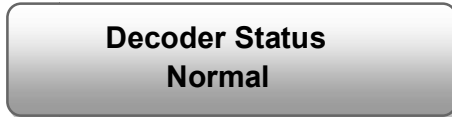
3.2.4Network

Users can set network parameters in this menu. Enter 'Network' submenus to separately set corresponding parameters.

```
Network
▶ NMS IP
Subnet Mask
Gateway
MAC Address
Web NMS Port
Reset Password
```
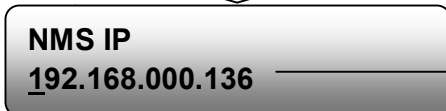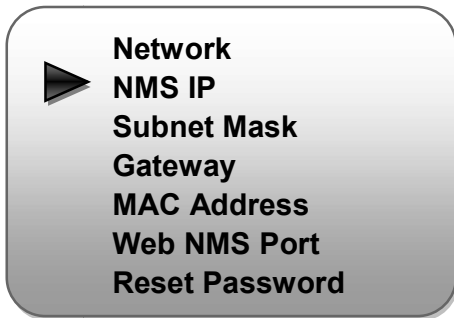
```
NMS IP
192.168.000.136
```
The IP address for connecting the device to PC

```
┌─────────────────────────────┐
│ Subnet Mask                 │
│ 255.255.255.000             │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Gateway                     │
│ 192.168.000.001             │
└─────────────────────────────┘
┌─────────────────────────────┐
│ MAC Address                 │
│ 201012345678                │
└─────────────────────────────┘
┌─────────────────────────────┐
│ Web NMS Port                │
│ 00080                       │
└─────────────────────────────┘
┌─────────────────────────────┐
│ Reset Password?             │
│ Yes ▷     NO                │
└─────────────────────────────┘
```

3.2.5 System

Users can set the system parameters in this menu. Enter 'System' submenus to separately set corresponding parameters.

```
┌─────────────────────────────┐
│ ▶ System                    │
│   Save Config               │
│   Load Saved CFG            │
│   Factory Reset             │
│   LCD Time-out              │
│   Key Password              │
│   Lock Keyboard             │
│   Product ID                │
│   Language                  │
│   Version                   │
└─────────────────────────────┘
```
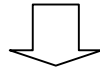
```
┌─────────────────────────────┐
│ Save Configuration?         │      Choose yes tosavesettings.
│ Yes        ▶ No             │      and press ENTER to confirm
└─────────────────────────────┘
```

```
Choose yesto restore the    ┌─────────────────────────────┐
device into the last saved  │ Load Saved CFG?             │
configuration.              │ Yes        ▶No              │
                            └─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ Reset All Sets?             │
```

Press DOWN/UP key to select a time out for the LCD lighting duration (5-120 seconds)

> **LCD Time-out**
> **30 s**

> **Set Password**
> <u>0</u>00000

To set a 6-digit password for unlocking the keyboard

Choose Yes to lock the keyboard, then the keyboard will be locked and cannot be applicable. It is required to input the password to unlock the key board. This operation is one-off

> **Lock Keyboard?**
> **Yes   ►No**

> **xxxxxxxxxxxxxxxxxxxxx**
> **xxxxxxxxxxxxxxxxxxxxx**

User can view the serial number of this device. It is read-only and unique

> **Language**
> **► English**

User can shift the system language here.

It displays the version information of this device. Encoder Modulator: the name of the device; SW: software version number; HW: hardware version number.

> **Thor**
> **SWx.xx   HW x.xx**

Chapter 4 Web-based NMS Management

In addition to using front buttonsto control the device, users can also control and set the configuration with the web Brower in the PC.

4.1 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 (Personal Computer) and the device with 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 interface as Figure-1. Input the Username and Password (Both the default Username and Password are "admin".) and then click "LOGIN" to start the device setting.
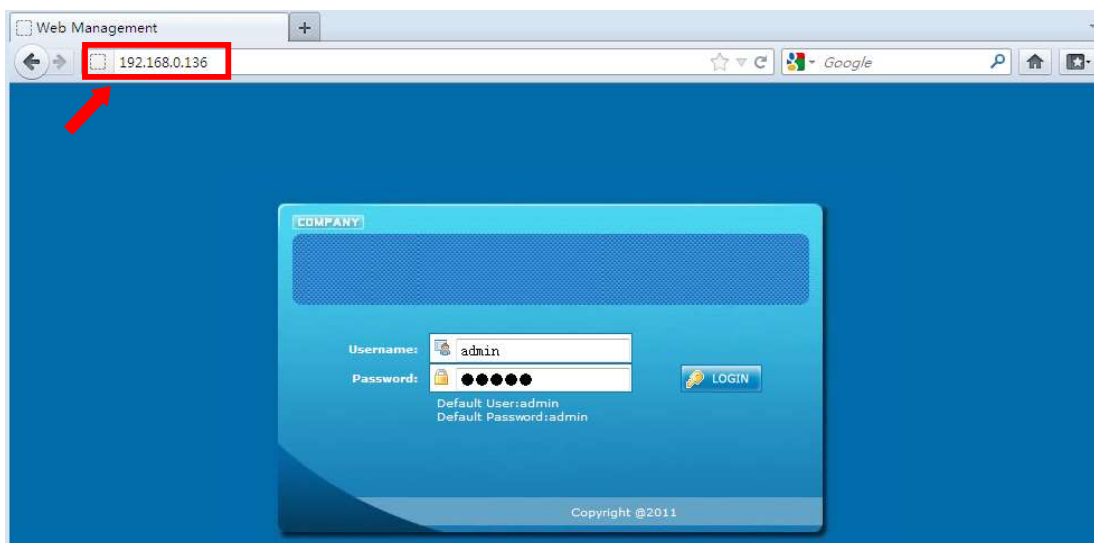
Figure-1

4.2 Operation

Summary:

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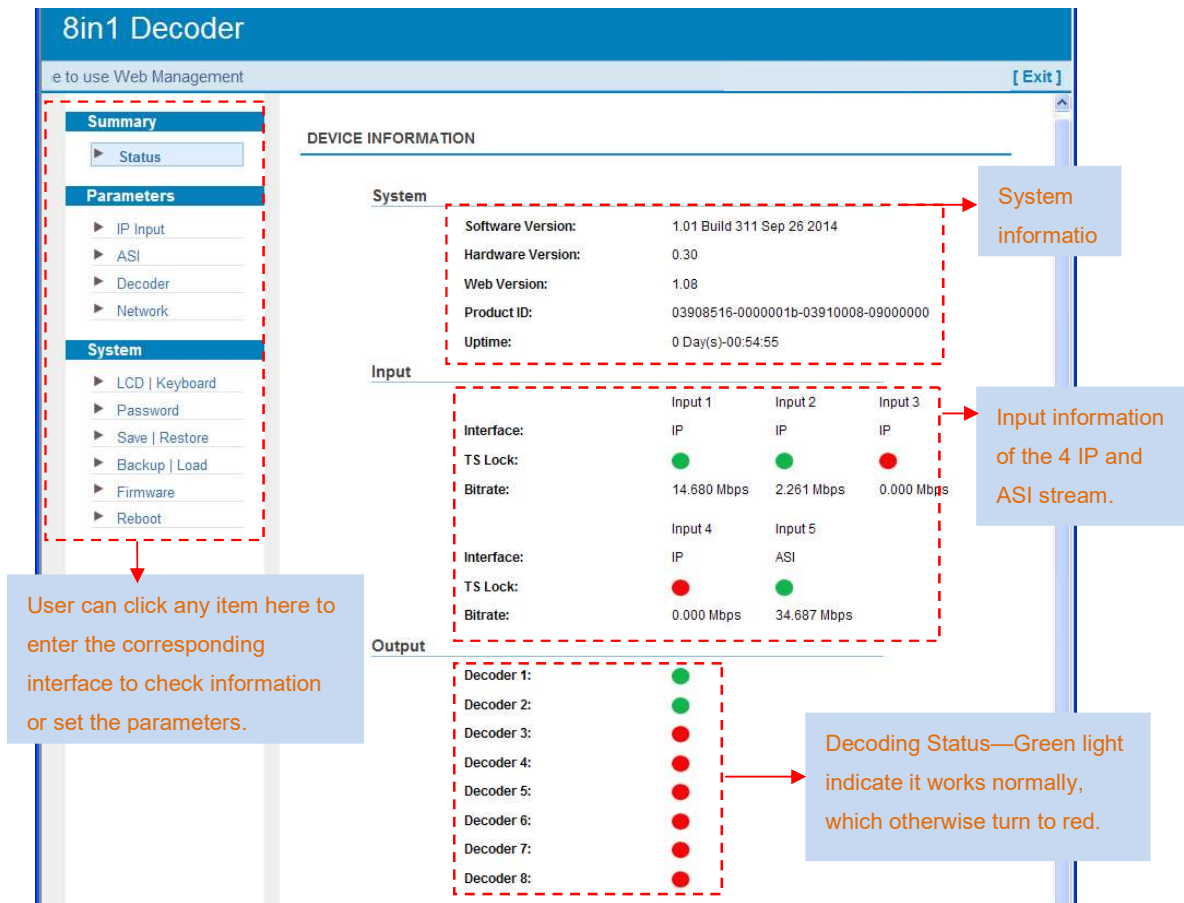
Figure-2

Parameters →IP Input:

From the menuon left side of the webpage, clicking"IP Input", it displays the interface where users can configure the IP input parameters. (Figure-3)
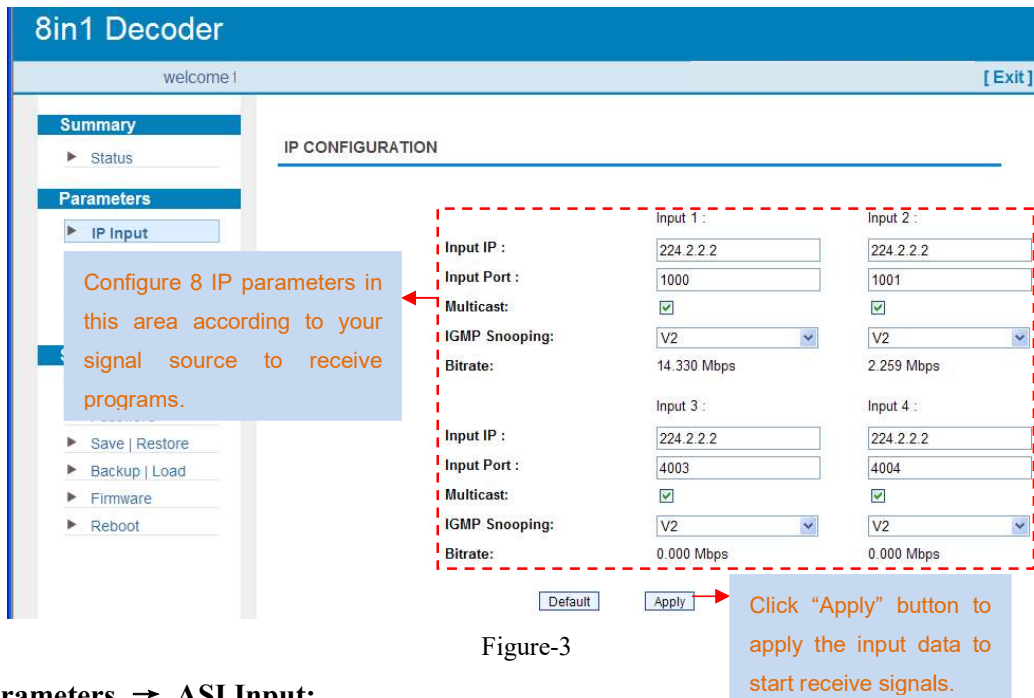
Figure-3

Parameters → ASI Input:

Under this interface, user can check the ASI input status and choose ASI output programs.(Figure-4).ASI signal does not need to configure.
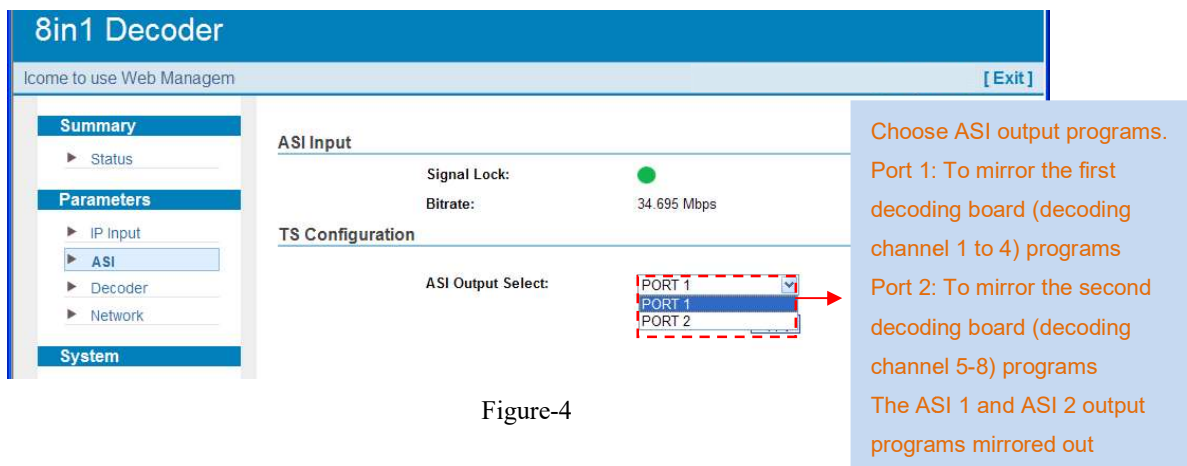
Figure-4

Parameters →Decoder:

This unit supports to decode up to 8 programs to output simultaneously through the CVBS ports. From the menuon left side of the webpage, clicking"Decoder", it displays the interface where users can configure the Video/Audio output parameters respectively (Figure-5). Operation steps are as below:

1)   Specify the decoding channel in the top section.

2)   Click [Search program] button to parse out all the input programs available.

3)   Configure V/A parameters and select the target program to be decoded out.

4) Click [Apply] button at last to confirm. Wait for a moment until the status light turns to green as shown below.
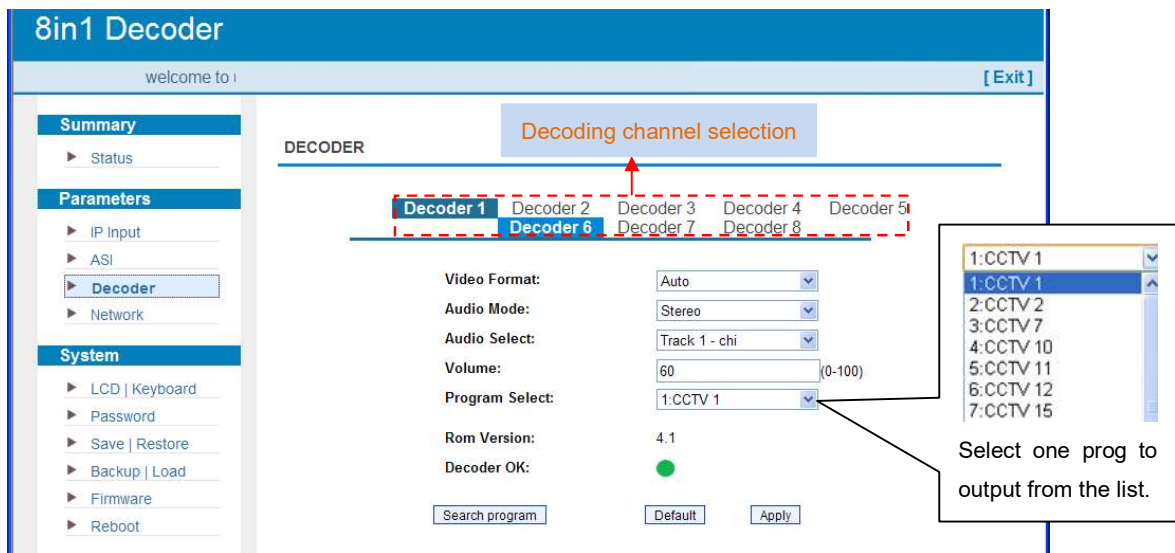
Figure-5

Parameters → Network:

From the menuon left side of the webpage, clicking"Network", it will display the screen as Figure-6 where to configure the network parameters for the device.
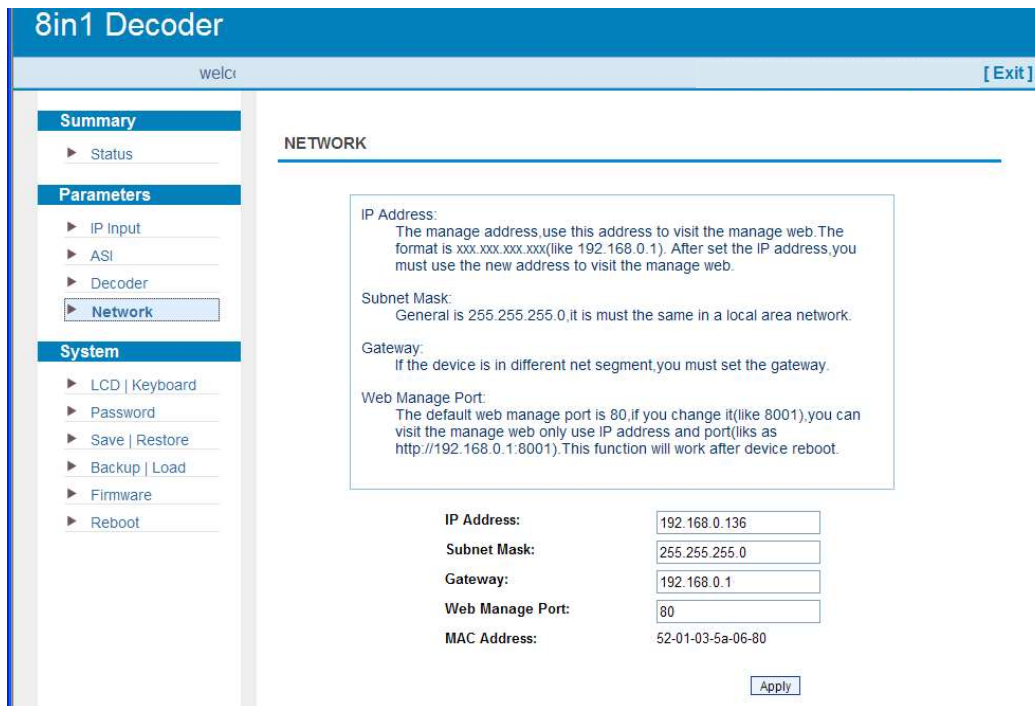

Figure-6

System → LCD/Keyboard:

From the menuon left side of the webpage, clicking"LCD/Keyboard", it will display the screen as Figure-7 where to control the device's front panel.
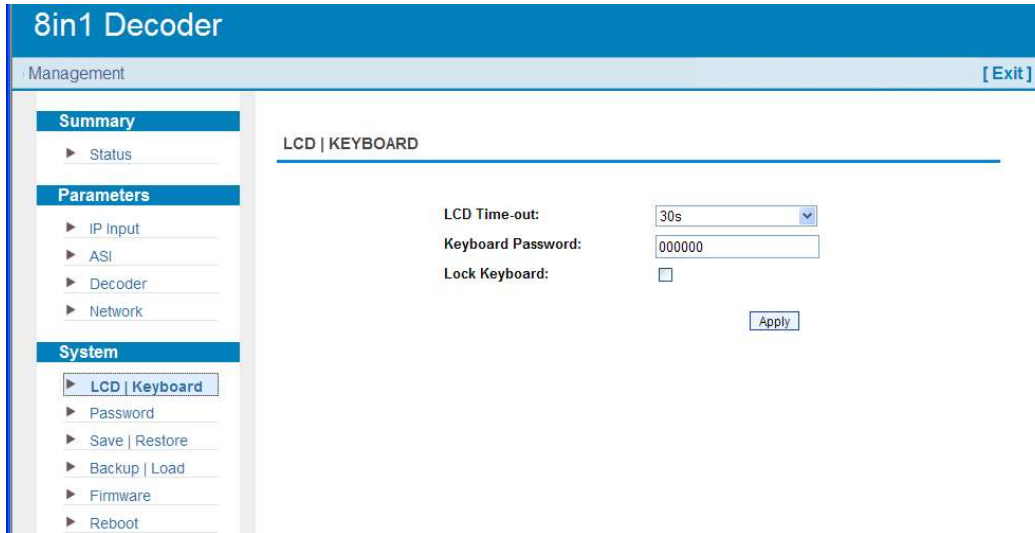
Figure-7

System → Password:

From the menuon left side of the webpage, clicking"Password", it will display the screen as Figure-8 where to set the login account and password for the web NMS.
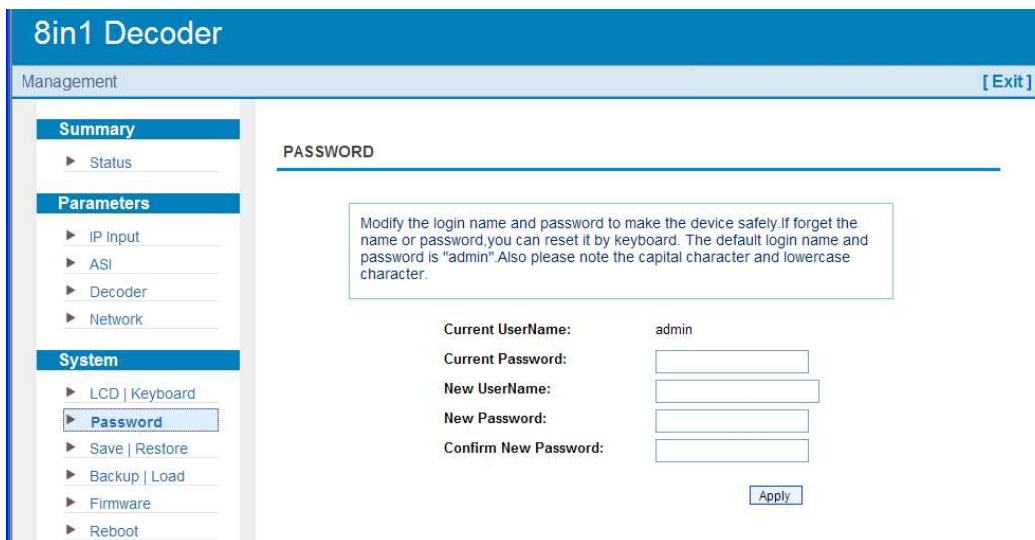

Figure-8

System → Save/Restore:

From the menuon left side of the webpage, clicking"Save/Restore", it will display the screen as Figure-9 where to save or restore your configurations.
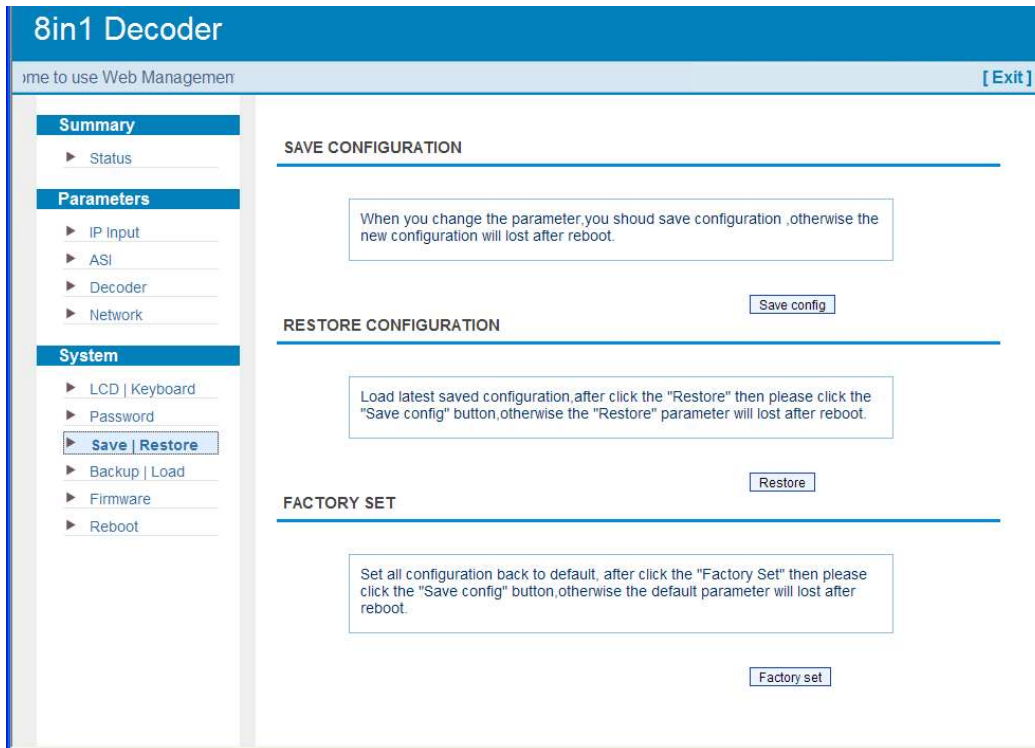
Figure-9

System → Backup/Load:

From the menuon left side of the webpage, clicking"Backup/Load", it will display the screen as Figure-10 where to backup or load your configurations.
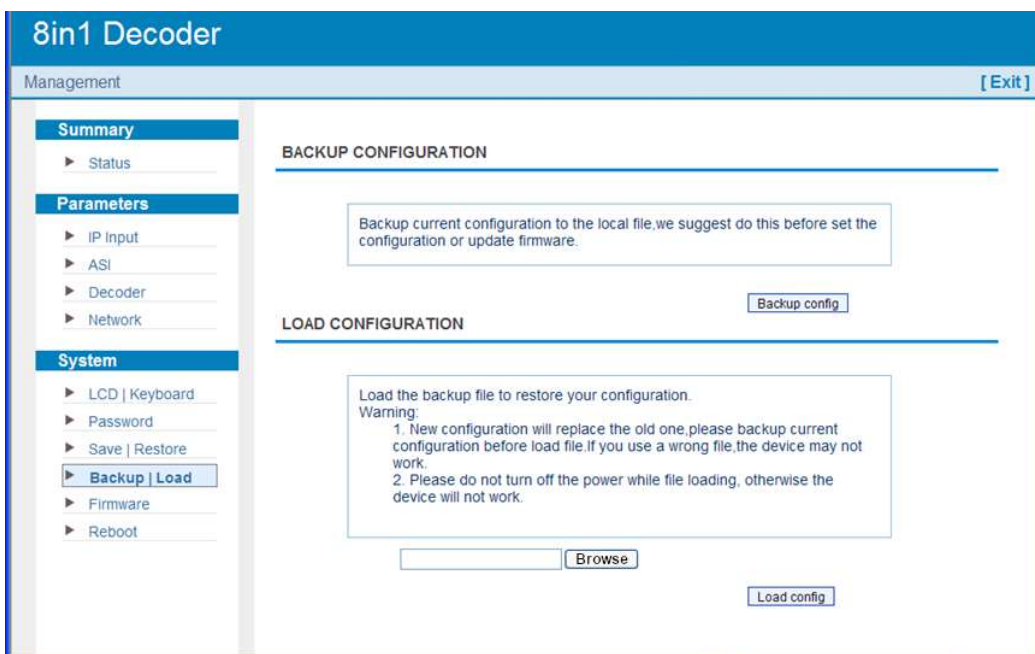

Figure-10

System ➔ Firmware:

From the menuon left side of the webpage, clicking"Firmware", it will display the screen as Figure-11 where to update firmware for the device.
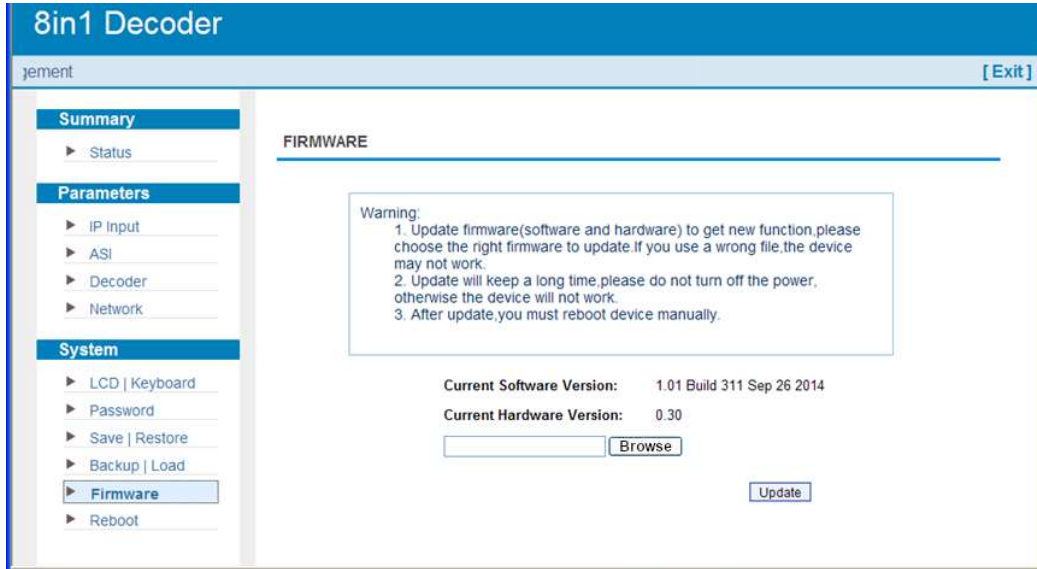

Figure-11

System ➔ Reboot:

From the menuon left side of the webpage, clicking"Reboot", it will display the screen as Figure-12 where to restart the device manually.
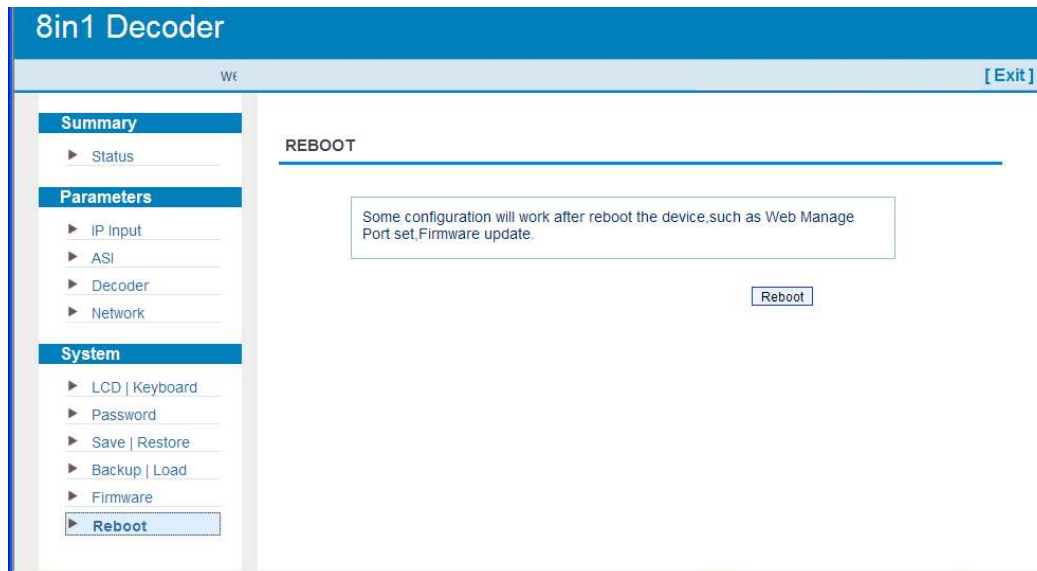

Figure-12

Chapter 5 Troubleshooting

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

Prevention Measure

- Installing the device at the place in which environment temperature between 0 to 45 °C

- Making sure good ventilation for the heat-sink on the rear panel and other heat-sink bores if necessary

- Checking the input AC voltage within the power supply working range and the connection is correct before switching on device

- Checking the RF output level varies within tolerant range if it is necessary

- Checking all signal cables have been properly connected

- Frequently switching on/off device is prohibited; the interval between every switching on/off must greater than 10 seconds.

Conditions need to unplug power cord

- Power cord or socket damaged.

- Any liquid flowed into device.

- Any stuff causes circuit short

- Device in damp environment

- Device was suffered from physical damage

- Longtime idle.

- After switching on and restoring to factory setting, device still cannot work properly.

- Maintenance needed

Chapter 6 Packing List

- H-8IP-8CVBSDecoder   1pcs

- User's Manual   1pcs

- CVBS Cable set   8sets

- Power Cord   1pcs