



DHP400 Head-end Processor User Manual



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HW version: 0.10.0.8

Web NMS version: 2.1

DEXIN DIGITAL TECHNOLOGY CORP. LTD.



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Address: No. 10 & No. 12, Wuxing Fourth Road, Wuhou District, Chengdu 610045, Sichuan, P.R. China
www.dsdvb.com/English Tel: +86-028-85558928 Fax: +86-028-85585255 Email: sunyu@dsdvb.com

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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Chapter 1 Product Overview

1.1 Outline

DHP400 DTV head-end processor is the new generation of intelligent headend processing equipment. This 1-U case comes with 6 independent module slots. Each module can be configured individually based on the applications including encoding, decoding, trans-coding, multiplexing, descrambling and modulating processing and the combination of all these functions. It supports multiple input and output interfaces and signal formats. With its powerful performance and low cost, DHP400 is especially adequate for the new generation CATV system.

1.2 Features

- Support Web management, Updates via web
- Support flexible combination of different type of modules
- Support up to 6 modules
- Redundancy power supply (optional)
- Support 1 ASI output (MPTS2)
- Support 2 GE output, 512 SPTS (UDP, RTSP/RTP) output from GE1, 8 MPTS (UDP, RTP) output from GE2, Unicast/Multicast, RJ45/SFP interface
- Support Web management, Updates via web

1.3 Specifications

(For each module's parameters, please see DHP400 Head-end processor SPEC)

Chapter 2 Physical Presentational Statement

2.1 Appearance and Description

Front Panel Illustration



1	Air Vent
2	ASI output port
3	GE1/GE2 Output: IP signal output, SFP connector
4	Reset: Reset webmaster IP address, recover it to default IP address
5	GE1/GE2 Output: IP signal output, RJ45 connector
6	NMS: network management system /CA communication, Ethernet interface
7	Indicators

1U chassis support up to 6 modules, users can freely select different module types and freely exchange modules' position, and here we just take one case as an example.

Rear Panel Illustration



Module Illustration:

DX504 4 ASI/IP Multiplexing Module



DX505 5 ASI Multiplexing Module



DX214 4 CVBS Encoding Module



DX202A 2 HDMI Encoding/Transcoding Module



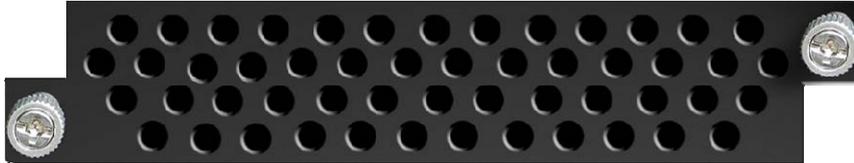
DX202A-D 2 SDI Encoding/Transcoding Module



DX224 4 HDMI Encoding Module



DX202 2 IP Transcoding Module



DX702 2 HD-SDI Decoding Module



DX316/332 16/32 QAM Modulating Module

DX308T 8 DVB-T Modulating Module

DX308C 8 ATSC Modulating Module

DX306I 6 ISDB-Tb Modulating Module



DX902 2 Tuner(DVB-S/S2) Descrambling Module

DX912 2 Tuner(DVB-C) Descrambling Module



DX904 4 FTA Tuner(DVB-S/S2) Module

DX914 4 FTA Tuner(DVB-C) Module

DX944 4 FTA Tuner(DVB-T/T2) Module



Chapter 3 Installation Guide

3.1 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:

- DHP400 Head-end processor
- User's Manual
- Power Cord

If any item is missing or mismatching with the list above, please contact local dealer.

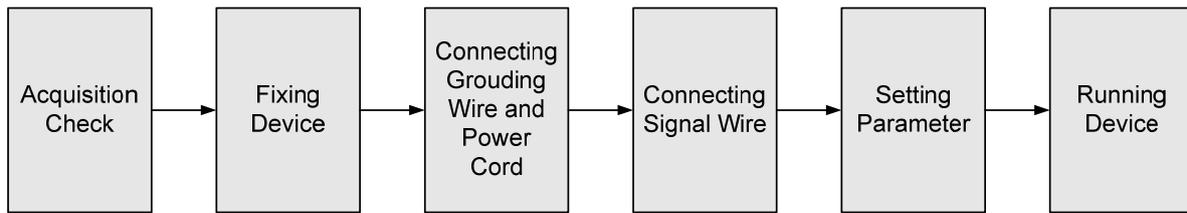
3.2 Installation Preparation

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 steps of the installation include:

- Checking the possible device missing or damage during the transportation
- Preparing relevant environment for installation
- Installing DHP400 head-end processor
- Connecting signal cables
- Connecting communication port (if it is necessary)

3.2.1 Device's Installation Flow Chart Illustrated as follows:



3.2.2 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: $1 \times 10^7 \sim 1 \times 10^{10} \Omega$, Grounding current limiting resistance: 1M (Floor bearing should be greater than 450Kg/m ²)
Environment Temperature	5~40°C(sustainable), 0~45°C(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 220V $\pm 10\%$ 50/60Hz or 110V $\pm 10\%$ 50/60Hz. Please carefully check before running.

3.2.3 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 .

3.2.4 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 .

3.2.5 Device Grounding

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

3.3 Wire's Connection

3.3.1 Power cord connection

The power socket is located on the right of rear panel, and the power switch is on the left of front panel. User can plug one end of the power cord to the socket and insert the other end to AC power. 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 to DHP400 head-end processor, user should set the power switch to “OFF”.

3.3.2 Signal and NMS Cable Connection

The signal connections include the connection of input signal cable and the connection of output signal cable.

Chapter 4 Web NMS Management

This device does not support the LCD operation, and the modification can only be operated under Web NMS.

4.1 Login

The factory default IP address is 192.168.000.136 and users can connect the device and web NMS through this IP address.

Connect the PC (Personal Computer) and the device with a net cable, and use ping command to confirm they are on the same network segment. For instance, the PC IP address is 192.168.000.252, we then change the device IP to 192.168.000.xxx (xxx can be 0 to 255 except 252 to avoid IP conflict).

Launch the web browser and input the device 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 "Sign In" to start the device setting.

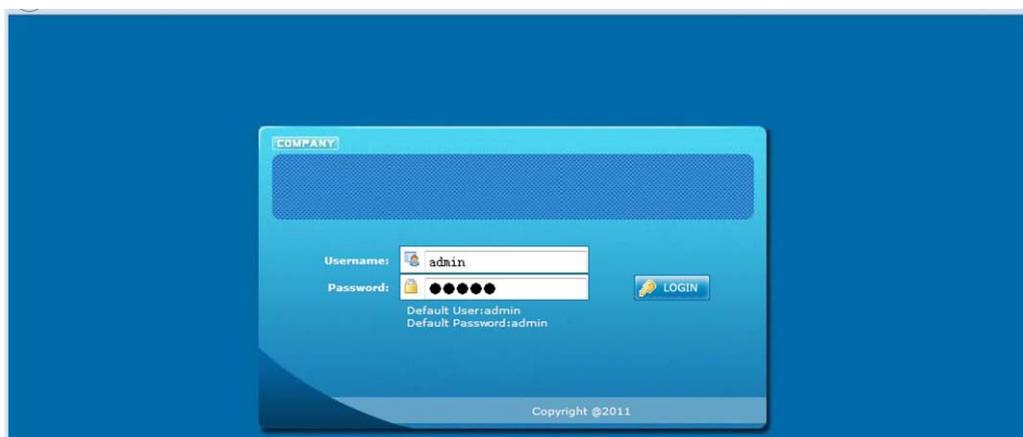


Figure-1

4.2 Operation

4.2.1 Summary

When we confirm the login, it displays the SUMMARY interface as Figure-2.

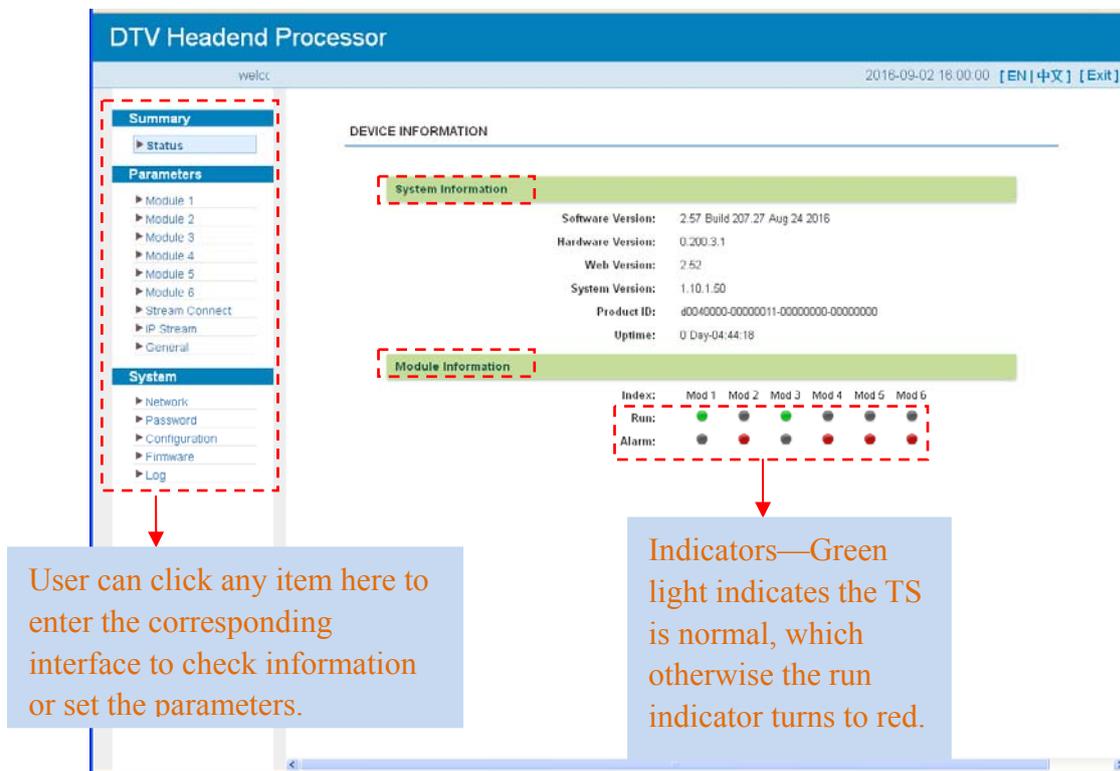


Figure-2

Parameters → Module1-6:

From the menu on left side of the webpage, clicking “Module1-6”, it displays the interface as below. Different module has different interface for parameter setting.

1. DX504 4 ASI/IP Multiplexing Module

DX504 module has 4 ASI input or output through 4 ASI bi-direction port, and 2 GE input or output port, each GE port support 256 IP input. Users click “input CH” to set DX504 modules parameters and it display the interface as below (Figure-3):

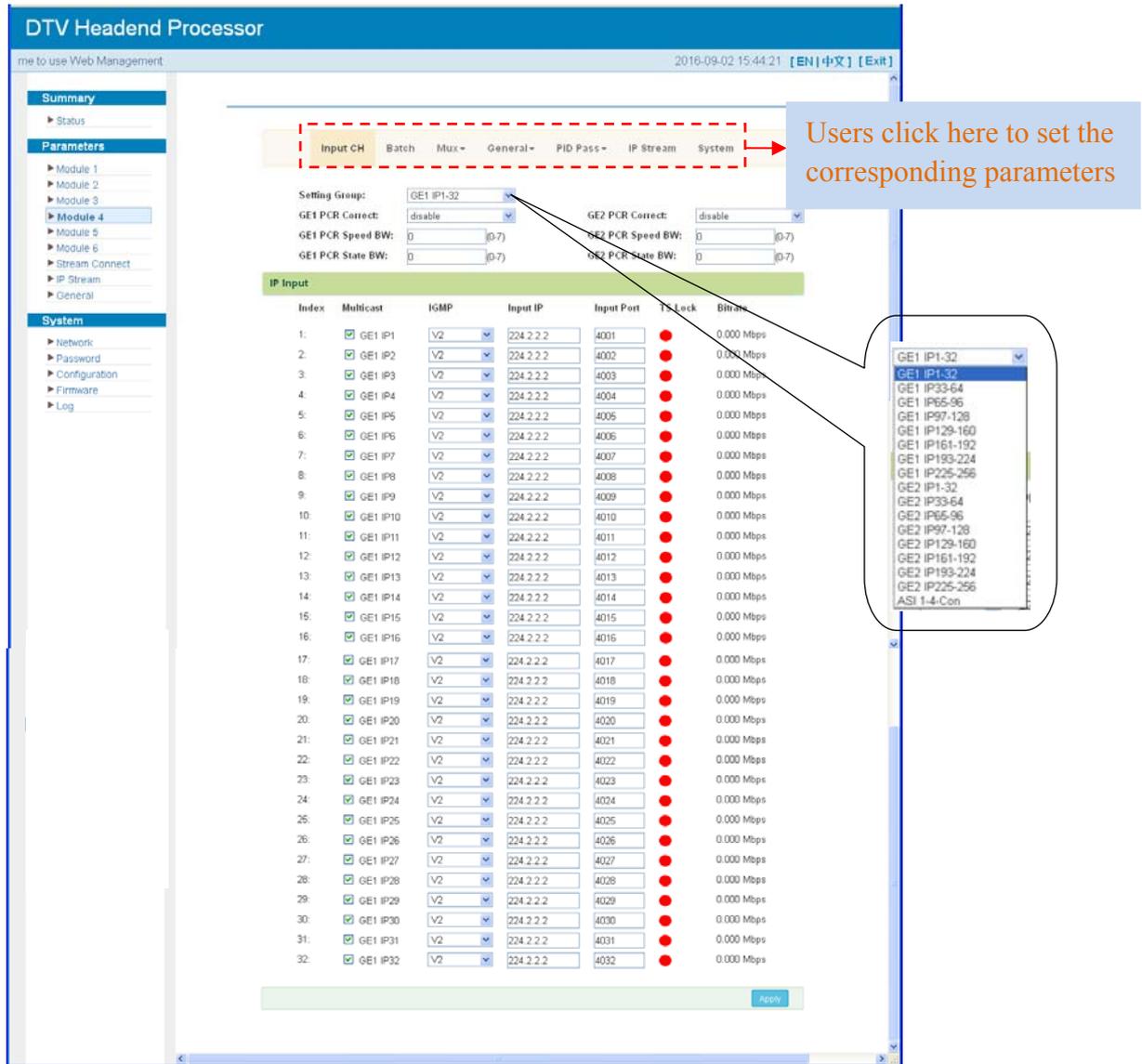


Figure-3

Users click “Batch” to set the IP input and general mux parameters for this module, and it display the interface as below (Figure-4):

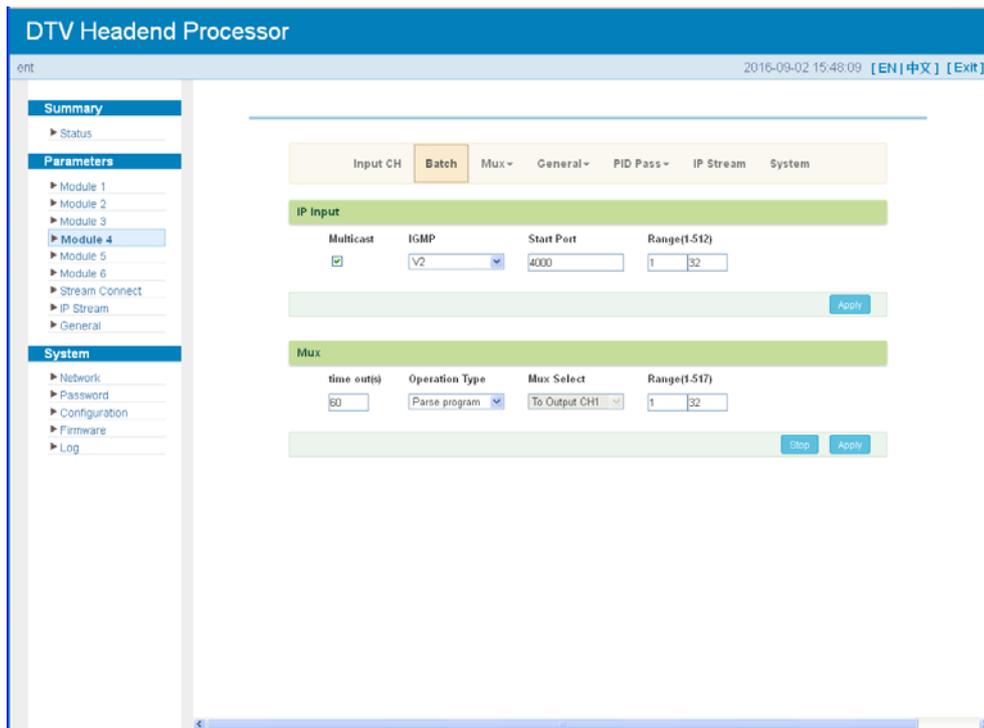


Figure-4

Users click “Mux” to set the mux parameters, and it display the interface as below (Figure-5):

Note: “module export” indicates that the TS will be exported to main board, and “Connector” indicate that the TS from main board after processing.

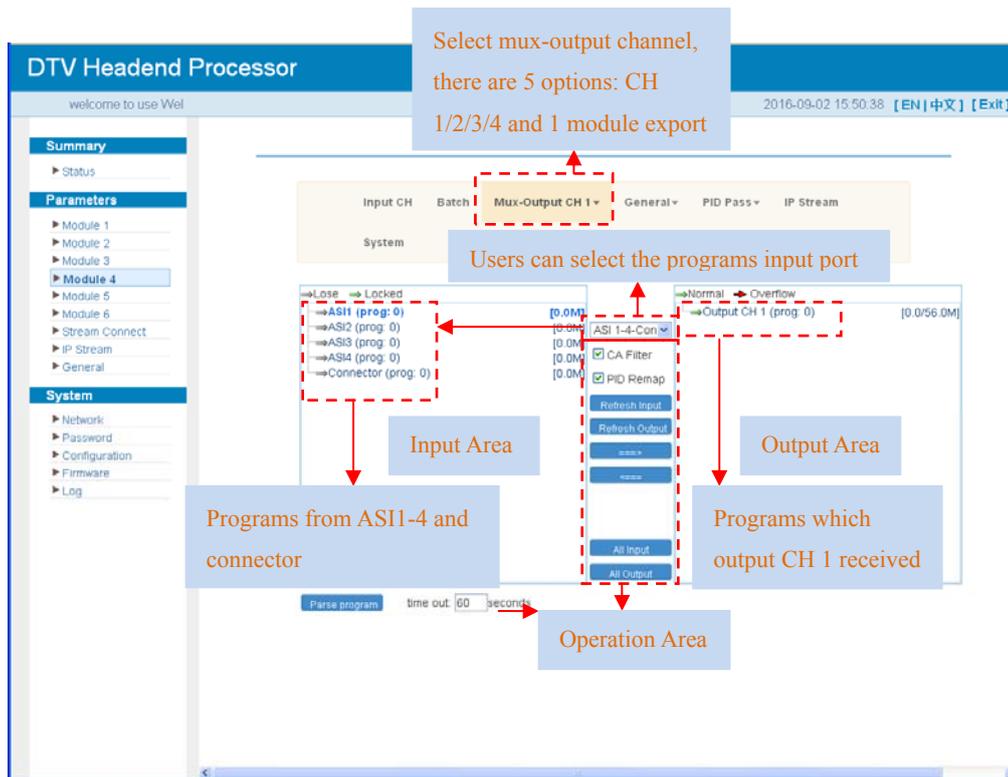


Figure-5

Configure 'Input Area' and 'Output Area' with buttons in 'Operation Area'. Instructions are as below:

CA Filter : To enable/disable the CA filter

PID Remap: To enable/disable the PID remapping

To refresh the input program information

To refresh the output program information

Select one input program first and click this button to transfer the selected program to the right box to output.

Similarly, user can cancel the multiplexed programs from the right box.

To select all the input programs

To select all the output programs

To parse programs seconds time limitation of parsing input programs

Program Modification:

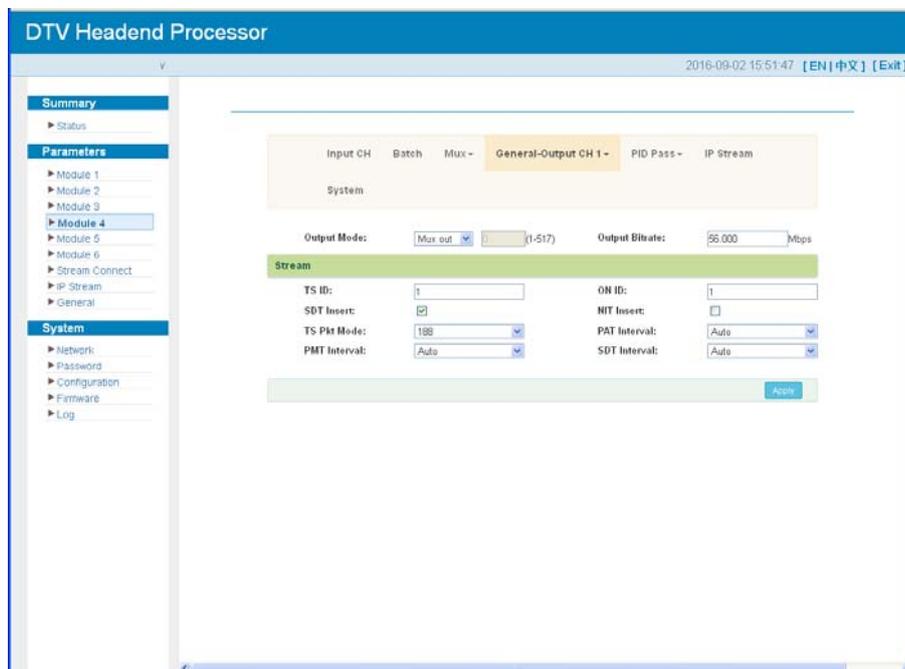
The multiplexed program information can be modified by clicking the program in the 'output' area. For example, when clicking TV-1101, it triggers a dialog box (Figure-6) where users can input new information.



Service Name:	TV-1101
Program Number:	32
Service Type:	0x01
Service Provider:	TV-Provider
PMT PID:	0x0020
PCR PID:	0x0021
MPEG-2 Video PID:	0x0022
MPEG-1 Audio PID:	0x0023

Figure-6

From the menu on up side of the webpage, clicking “General”, user can set the parameters of the each output carriers. It displays the interface as Figure-7.



Input CH	Batch	Mux -	General-Output CH 1 -	PID Pass -	IP Stream
----------	-------	-------	-----------------------	------------	-----------

System

Output Mode: Mux out (1-517) Output Bitrate: 56,000 Mbps

Stream

TS ID:	1	ON ID:	1
SDT Insert:	<input checked="" type="checkbox"/>	NIT Insert:	<input type="checkbox"/>
TS PKT Mode:	188	PAT Interval:	Auto
PMT Interval:	Auto	SDT Interval:	Auto

Apply

Figure-7

From the menu on up side of the webpage, clicking “PID Pass”, it displays the interface where to add the PIDs which needs pass through. (Figure-8)

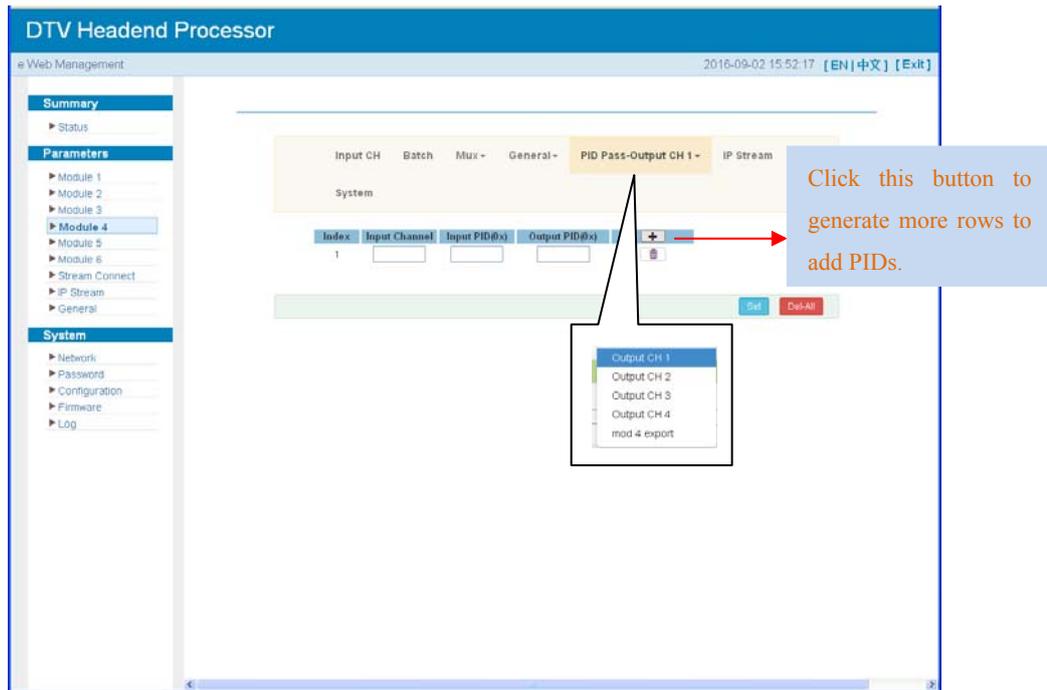


Figure-8

DX504 also supports TS output with 4 channels through the two GE port. Each channel for GE1 and GE2 has independent IP address and IP number.

Click 'IP Stream', it will display the interface as Figure-9 where to set IP out parameters.

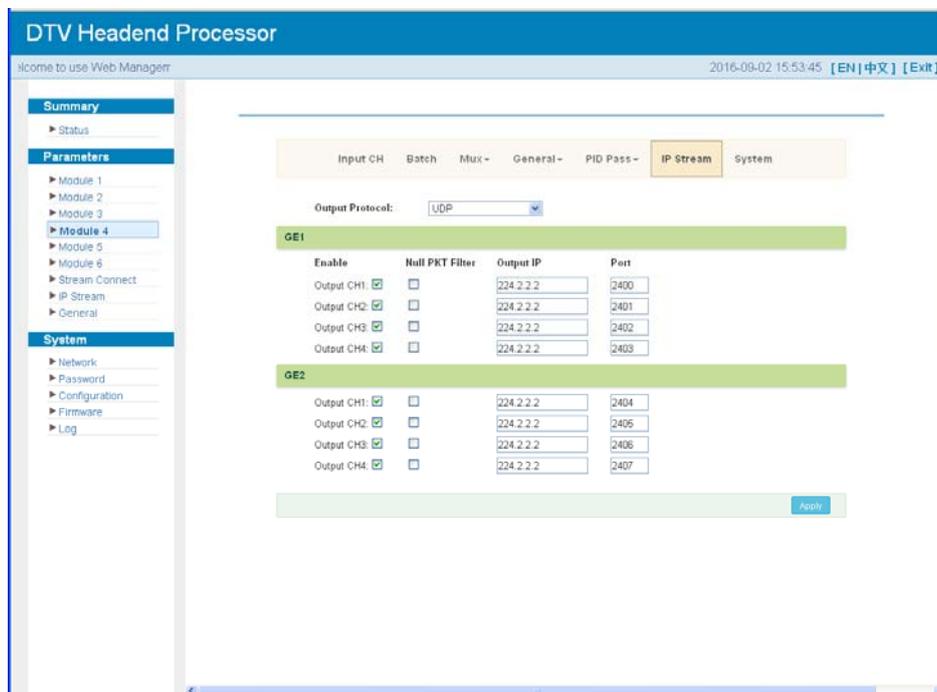


Figure-9

From the menu on up side of the webpage, clicking "System", it displays the interface (Figure-10) where users can check and set this module's system information.

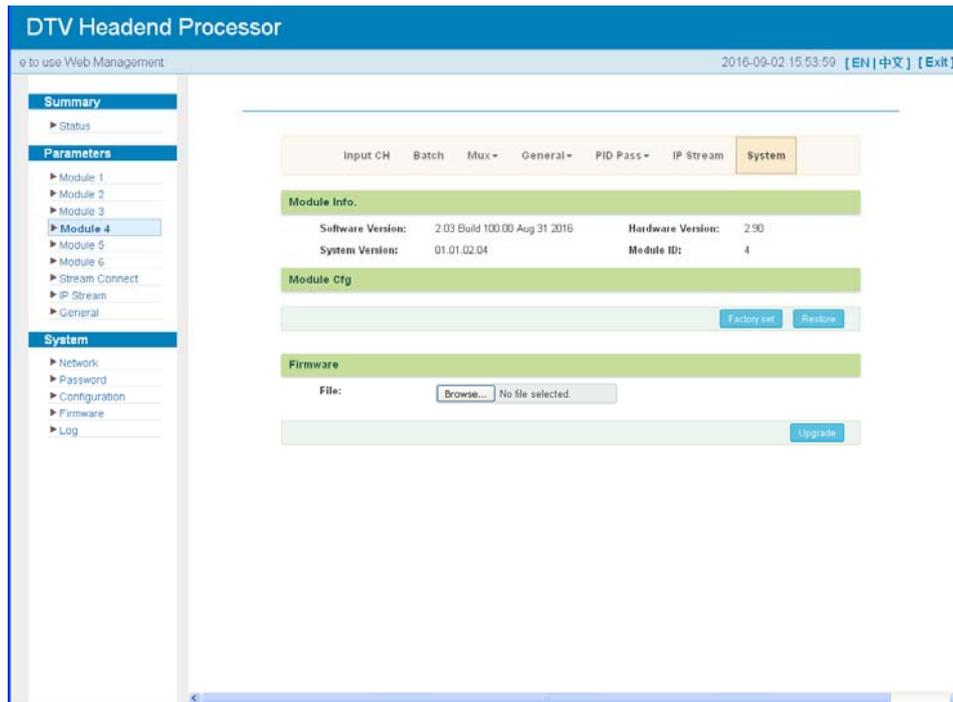


Figure-10

2. DX505 5 ASI Multiplexing Module

DX505 module has 5 ASI bi-direction port for input and output. Users click “In-Out” to set the 5ASI direction and it display the interface as below (Figure-11):

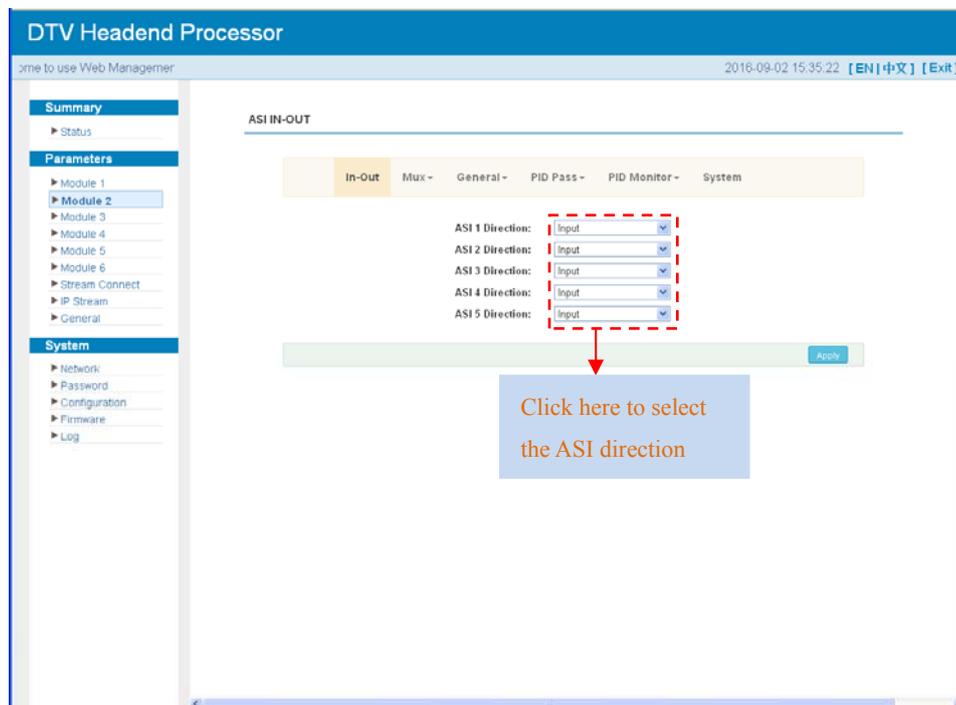


Figure-11

Users click “Mux” to set the mux parameters, and it display the interface as below (Figure-12):

Note: “module export” indicates that the TS will be exported to main board, and

“Connector” indicate that the TS from main board after processing.

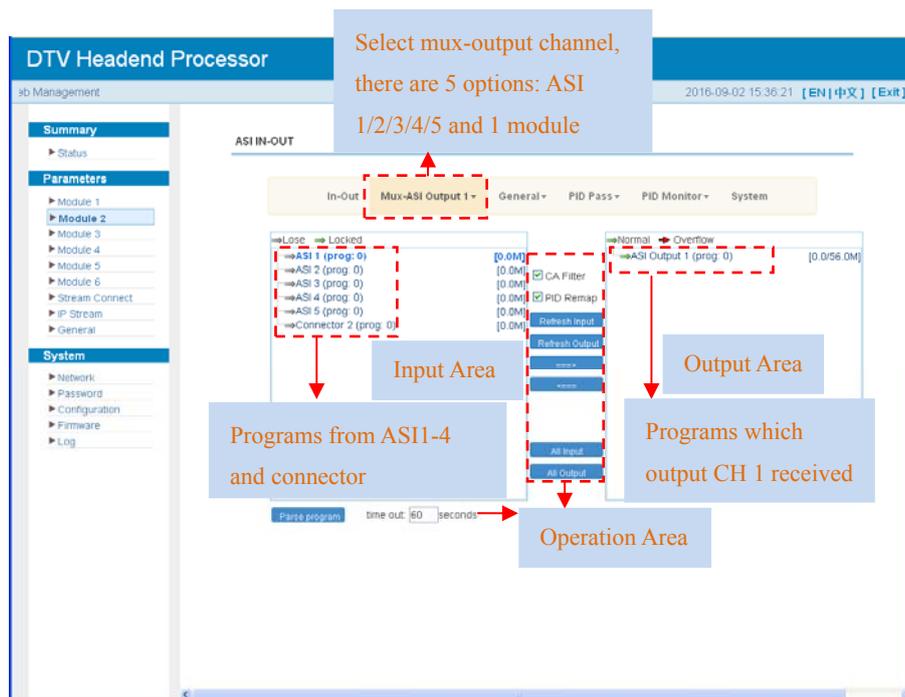


Figure-12

Configure ‘Input Area’ and ‘Output Area’ with buttons in ‘Operation Area’. Instructions are as below:

CA Filter : To enable/disable the CA filter

PID Remap: To enable/disable the PID remapping

To refresh the input program information

To refresh the output program information

Select one input program first and click this button to transfer the selected program to the right box to output.

Similarly, user can cancel the multiplexed programs from the right box.

To select all the input programs

To select all the output programs

To parse programs time limitation of parsing input programs

Program Modification:

The multiplexed program information can be modified by clicking the program in the ‘output’ area. For example, when clicking TV-1101, it triggers a dialog box (Figure-13) where users can input new information.

Field	Value
Service Name:	TV-1101
Program Number:	32
Service Type:	0x01
Service Provider:	TV-Provider
PMT PID:	0x0020
PCR PID:	0x0021
MPEG-2 Video PID:	0x0022
MPEG-1 Audio PID:	0x0023

Figure-13

From the menu on up side of the webpage, clicking “General”, user can set the parameters of the each output carriers. It displays the interface as Figure-14.

Figure-14

From the menu on up side of the webpage, clicking “PID Pass”, it displays the interface where to add the PIDs which needs pass through. (Figure-15)

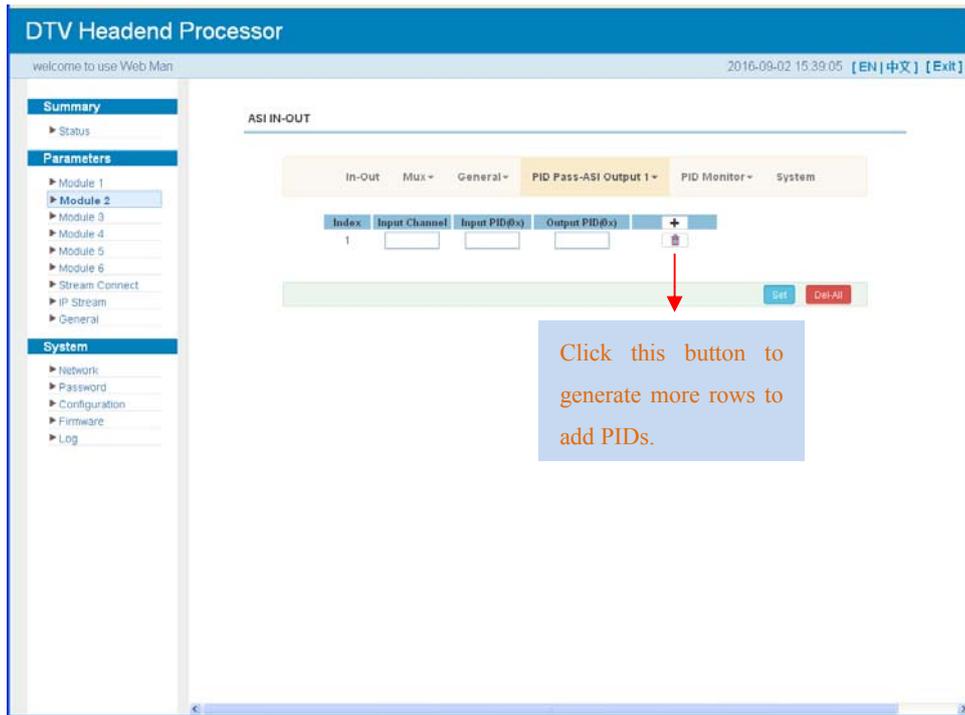


Figure-15

From the menu on up side of the webpage, clicking “PID Monitor”, it displays the interface where to set the PID parameters. (Figure-16)

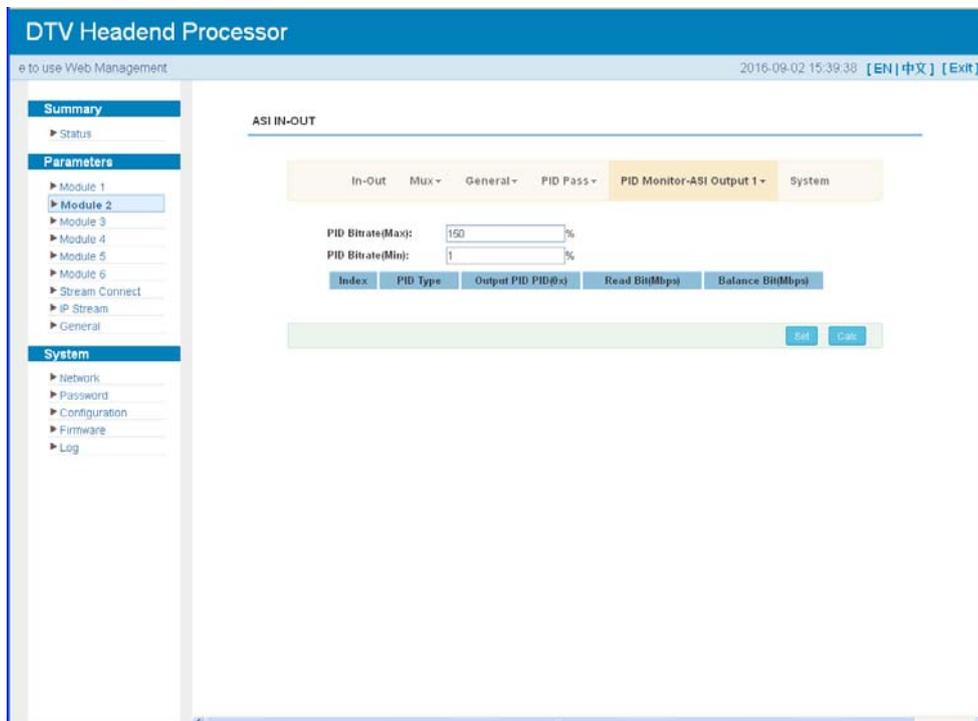


Figure-16

From the menu on up side of the webpage, clicking “System”, it displays the interface (Figure-17) where users can check and set this module’s system information.

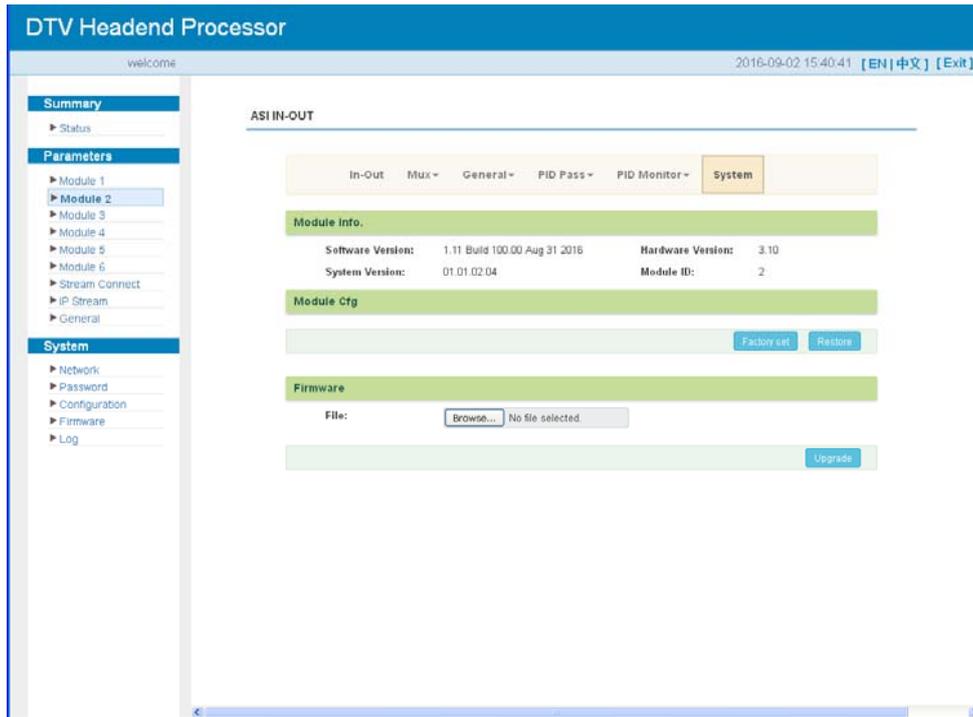


Figure-17

3. DX214 4 CVBS Encoding Module

DX214 has 24 CVBS input interfaces and 24 pairs of unbalanced analogue stereo audio input interfaces, Users click “Encoding CH1-CH4” to set the encoding parameters and it display the interface as below (Figure-18):

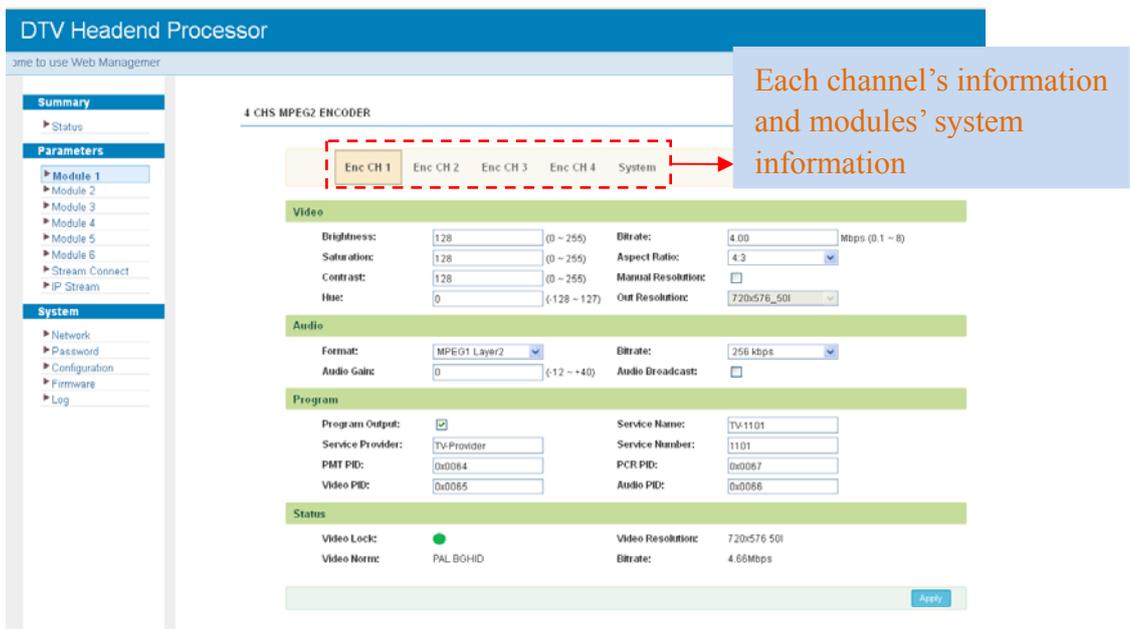


Figure-18

 Click this button to apply the modified parameters.

Users click “System” to check the system information for each module, and it display the

interface as below (Figure-19):

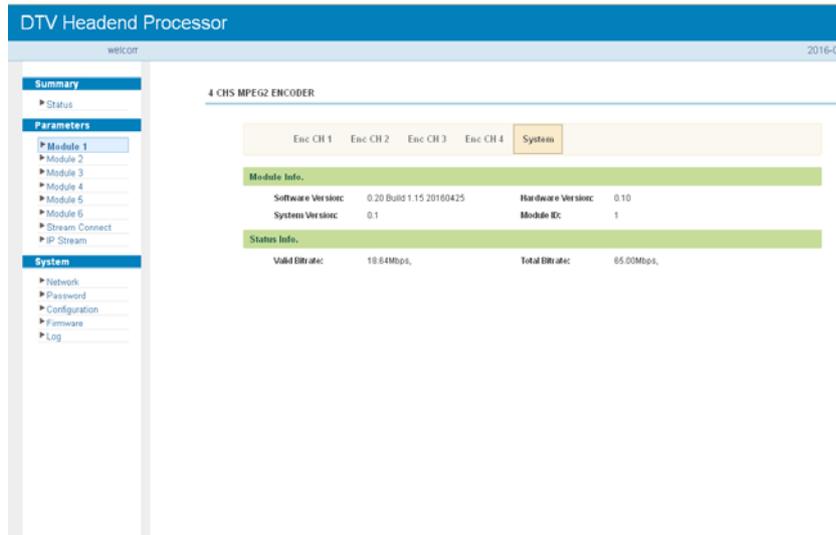


Figure-19

4. DX202A 2 HDMI Decoding Module

DX202A module has 2 HDMI input, and this module can be used as transcoding module or encoding module. Users click “Encoder/Transcoder 1/2” to set the parameters and it displays the interface as below (Figure-20):

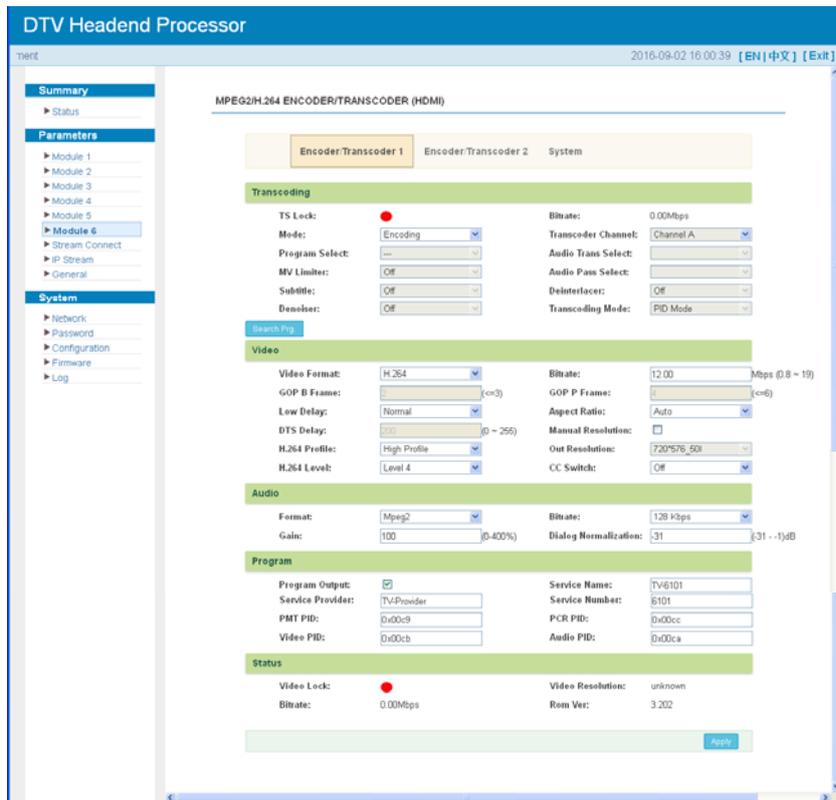


Figure-20

From the menu on up side of the webpage, clicking “System”, it displays the interface (Figure-21) where users can check and set DX202A module’s system information.

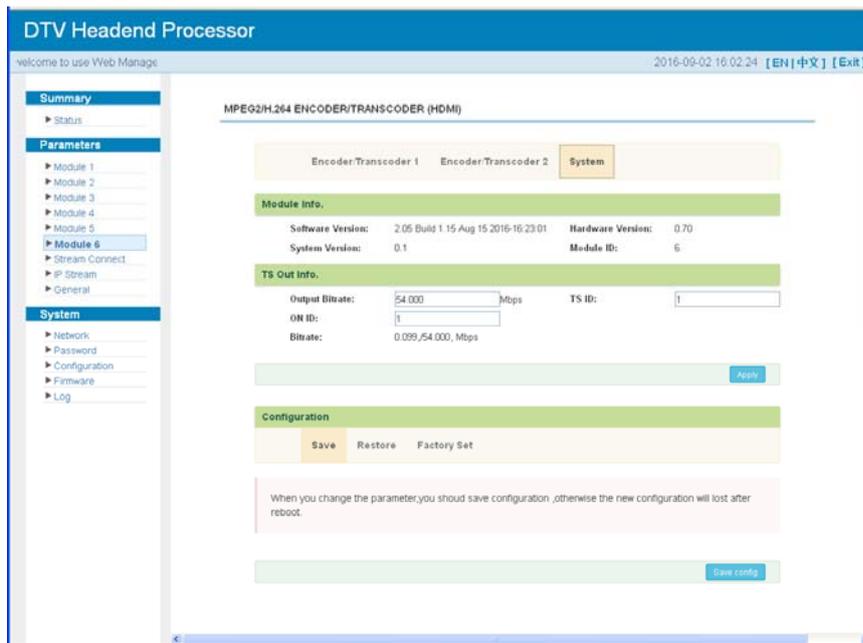


Figure-21

5. DX202A-D 2 SDI Encoding/Transcoding Module

DX202A-D module has 2 SDI input, and this module can be used as transcoding module or encoding module. Users click “Encoder/Transcoder 1/2” to set the parameters and it display the interface as below (Figure-22):

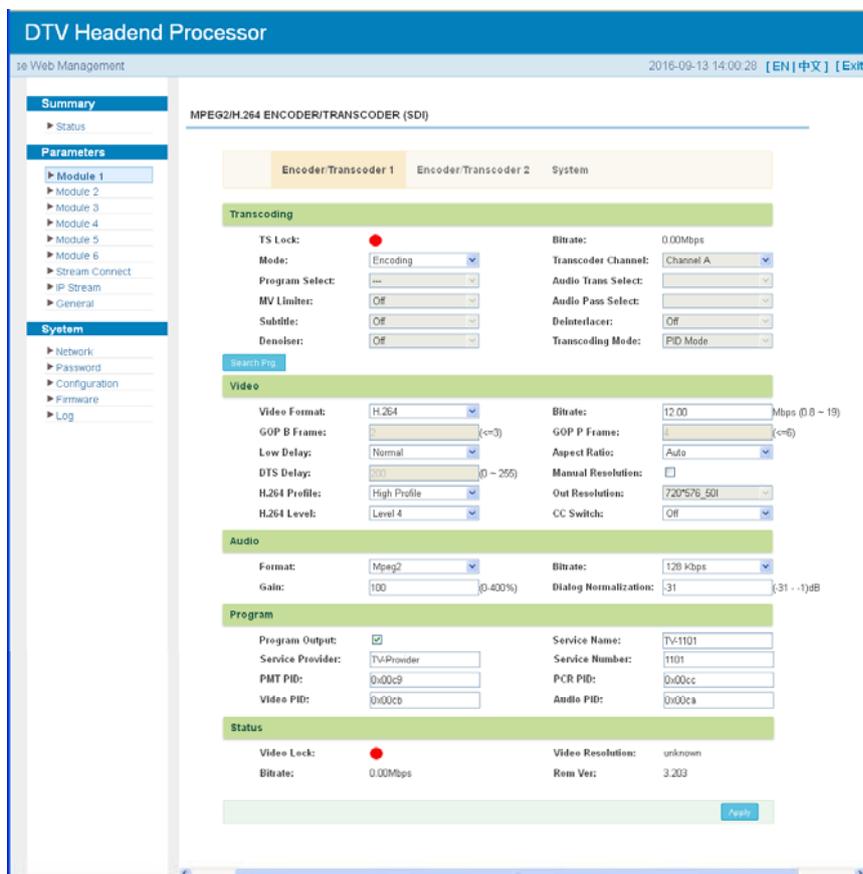


Figure-22

From the menu on up side of the webpage, clicking “System”, it displays the interface (Figure-23) where users can check and set DX202A-D module’s system information.

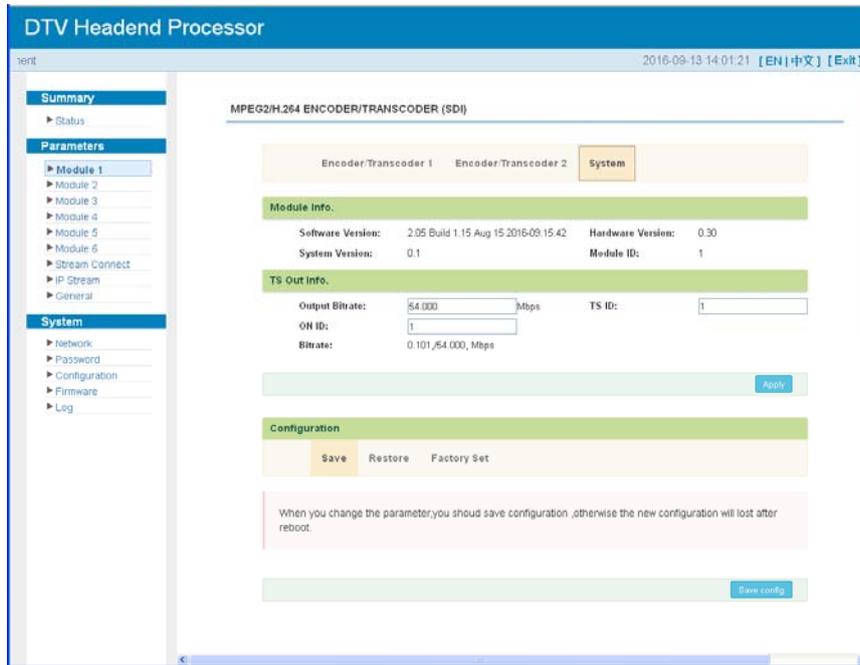


Figure-23

6. DX224 4 HDMI Encoding Module

DX224 support 4 HDMI input channel, Users click “Tuner1-2” to configure the input tuner parameters to receive satellite signals and it display the interface as below (Figure-24):

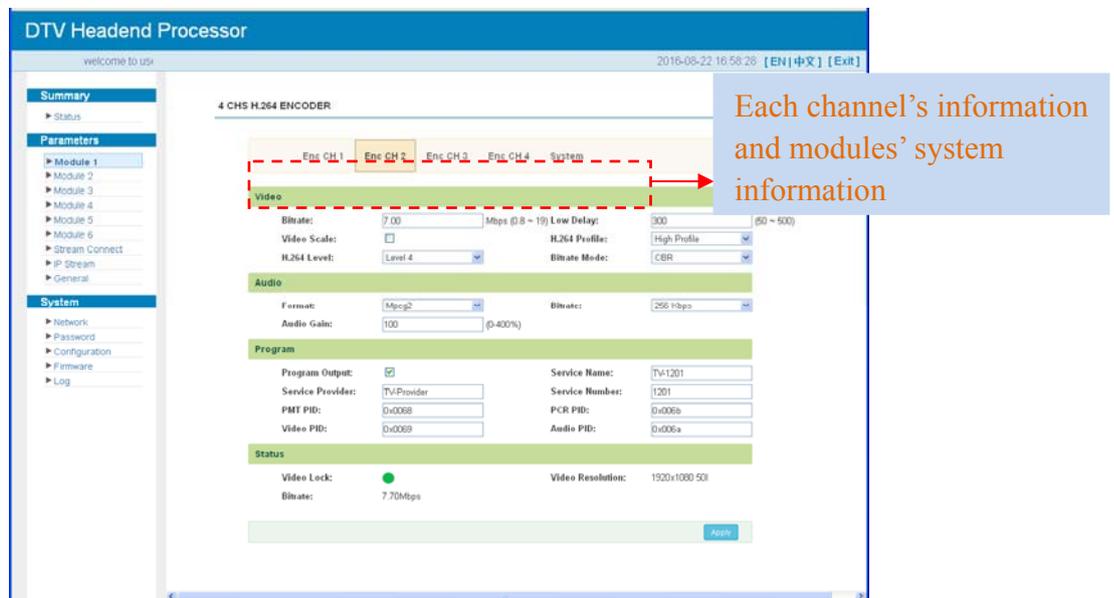


Figure-24

 Click this button to apply the modified parameters.

Users click “System” to check the system information for each module, and it display the interface as below (Figure-25):

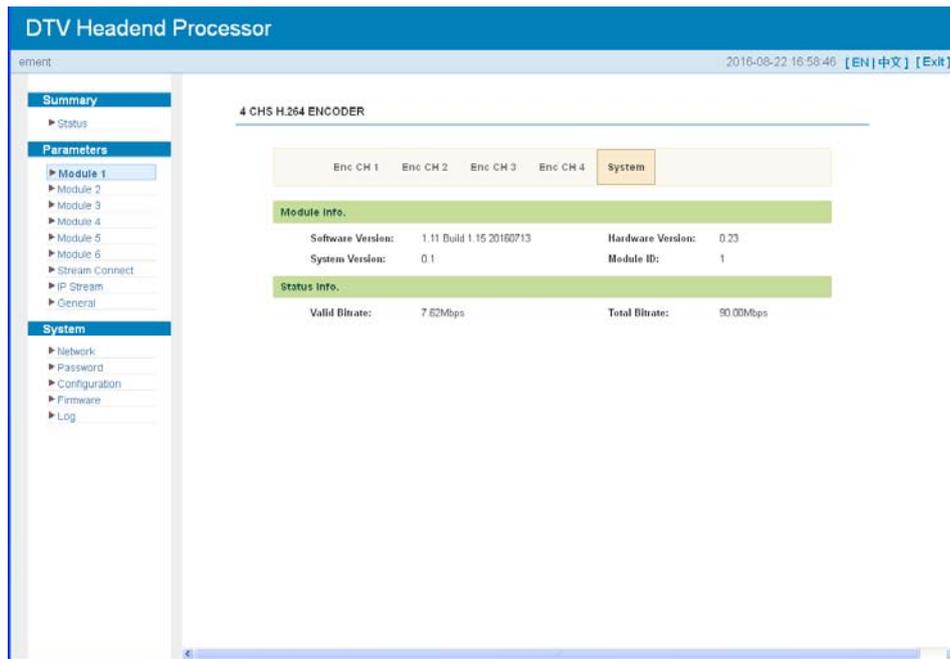


Figure-25

7. DX202 2 IP Transcoding Module

DX202 module is a transcoding module which supports video and audio transcoding, and because of DX202 without input or output port, it should be used combine with other module. Users click “CH1/CH2” to set parameters and it display the interface as below(Figure-26):

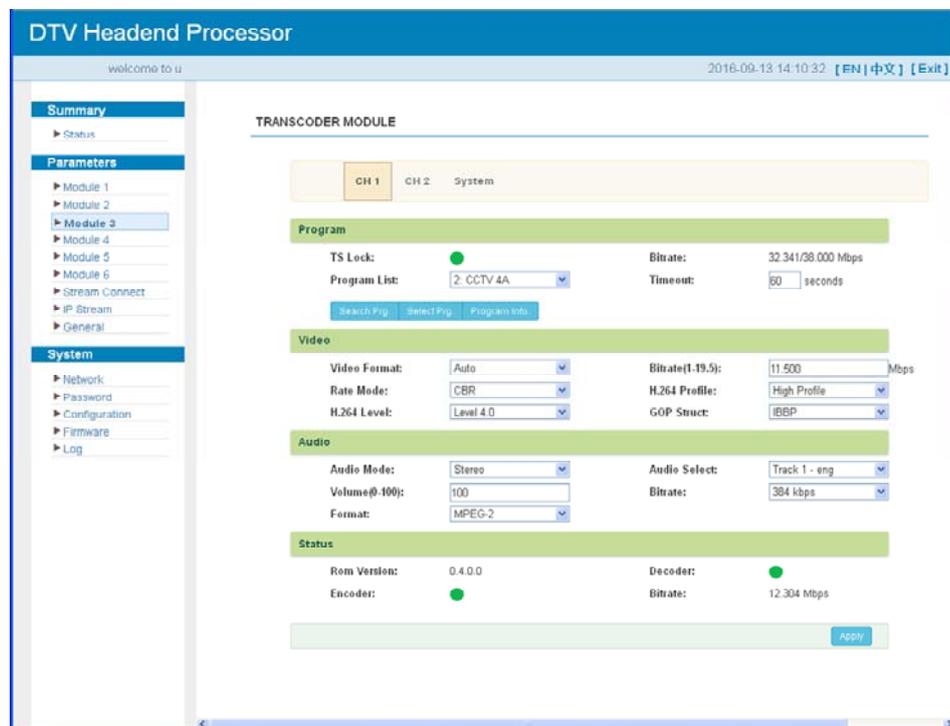


Figure-26

Users click “System” to check the system information, and it display the interface as below (Figure-27):

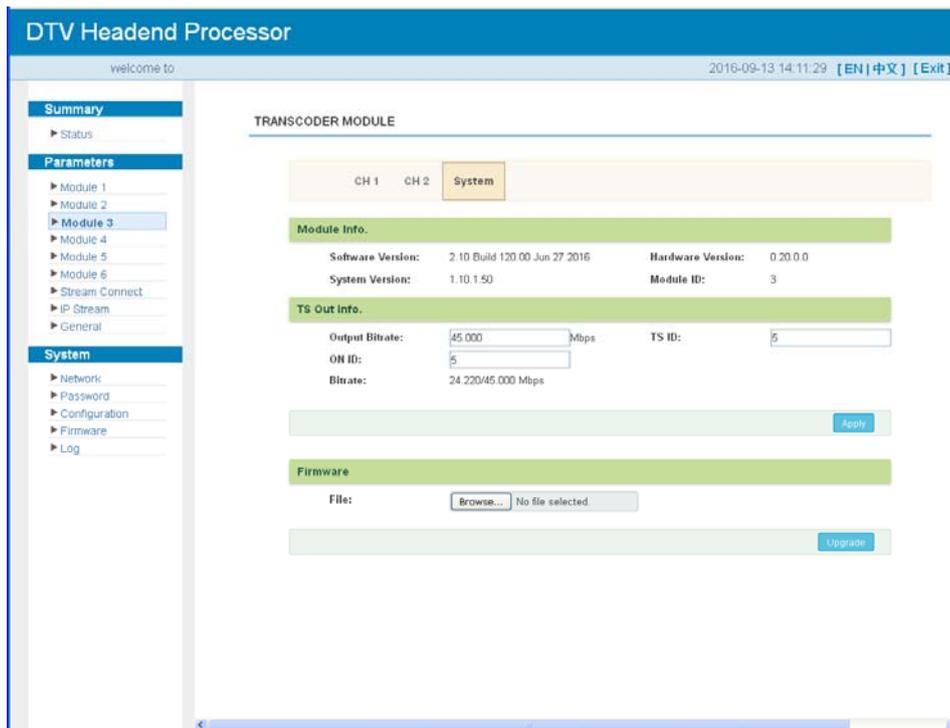


Figure-27

8. DX702 2 HD-SDI Decoding Module

DX702 module has 2ASI input and 2 SDI output. DX702 ASI port can be used as input or output port, and users click “In-Out” to select the ASI direction and it display the interface as below (Figure-28):

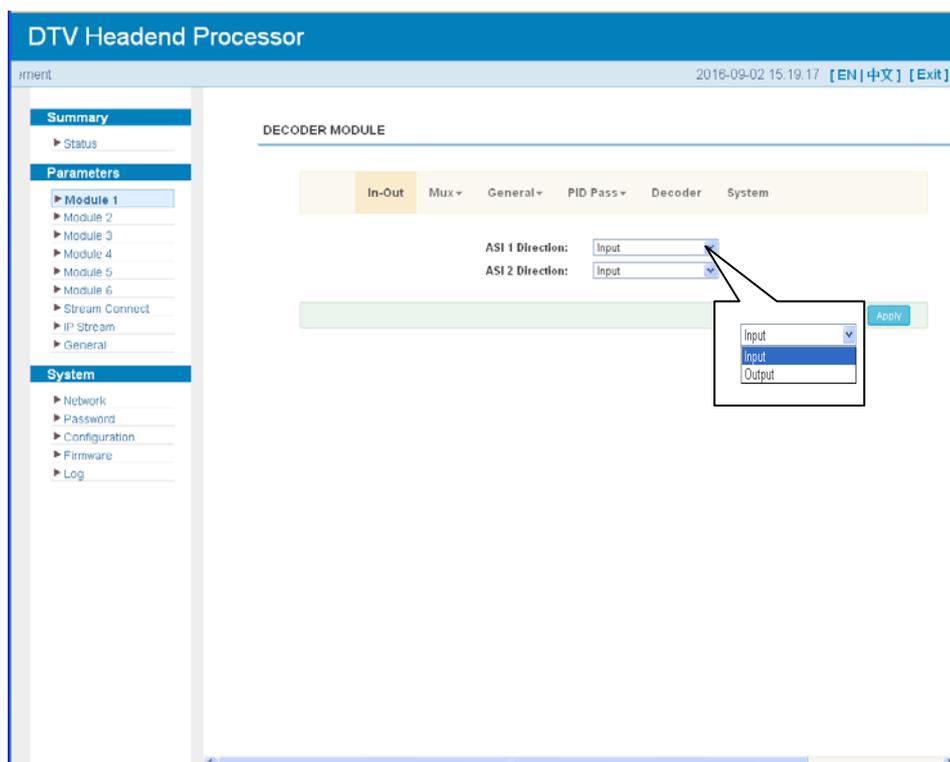


Figure-28

Users click “Mux” to set the mux parameters, and it display the interface as below (Figure-29):

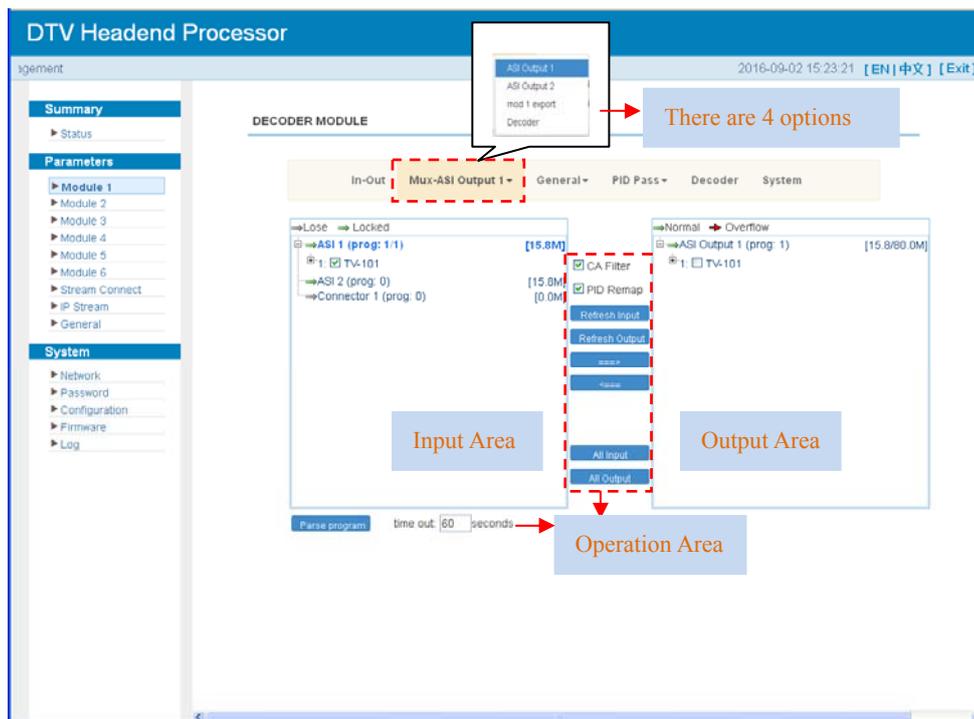


Figure-29

Configure ‘Input Area’ and ‘Output Area’ with buttons in ‘Operation Area’. Instructions are as below:

CA Filter : To enable/disable the CA filter

PID Remap: To enable/disable the PID remapping

To refresh the input program information

To refresh the output program information

Select one input program first and click this button to transfer the selected program to the right box to output.

Similarly, user can cancel the multiplexed programs from the right box.

To select all the input programs

To select all the output programs

To parse programs seconds time limitation of parsing input programs

Program Modification:

The multiplexed program information can be modified by clicking the program in the ‘output’ area. For example, when clicking TV-1101, it triggers a dialog box (Figure-30) where users can input new information.

Field	Value
Service Name:	TV-1101
Program Number:	32
Service Type:	0x01
Service Provider:	TV-Provider
PMT PID:	0x0020
PCR PID:	0x0021
MPEG-2 Video PID:	0x0022
MPEG-1 Audio PID:	0x0023

Figure-30

From the menu on up side of the webpage, clicking “General”, user can set the ASI output1, ASI output2 and module1 export general parameters of this module. It displays the interface as Figure-31.

DTV Headend Processor

welcome to use Web Manager 2016-09-02 15:27:59 [EN|中文] [Exit]

Summary

- ▶ Status

Parameters

- ▶ Module 1
- ▶ Module 2
- ▶ Module 3
- ▶ Module 4
- ▶ Module 5
- ▶ Module 6
- ▶ Stream Connect
- ▶ IP Stream
- ▶ General

System

- ▶ Network
- ▶ Password
- ▶ Configuration
- ▶ Firmware
- ▶ Log

DECODER MODULE

In-Out Mux - General-ASI Output 1 - PID Pass - Decoder System

Output Mode: Mux out Output Bitrate: 80,000 Mbps

Stream

TS ID: 1 ON ID: 1

SDT Insert: NIT Insert:

TS Pkt Mode: 108 PAT Interval: Auto

PMT Interval: Auto SDT Interval: Auto

Apply

Mux out

- Mux out
- ASI 1 Bypass
- ASI 2 Bypass
- Connector 1 Bypass

Figure-31

From the menu on up side of the webpage, clicking “PID Pass”, it displays the interface where to add the PIDs which needs pass through. (Figure-32)

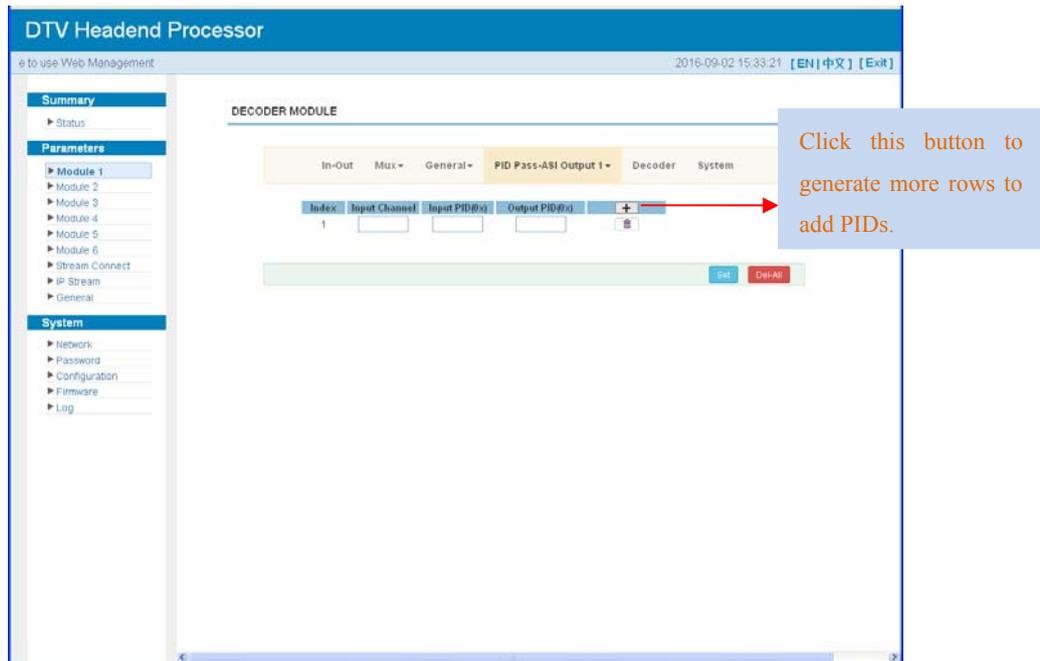


Figure-32

DX702 module supports to decode up to 2 programs to output simultaneously through the SDI ports. From the menu on up side of the webpage, clicking “Decoder”, it displays the interface where users can configure the Video/Audio output parameters respectively (Figure-33).

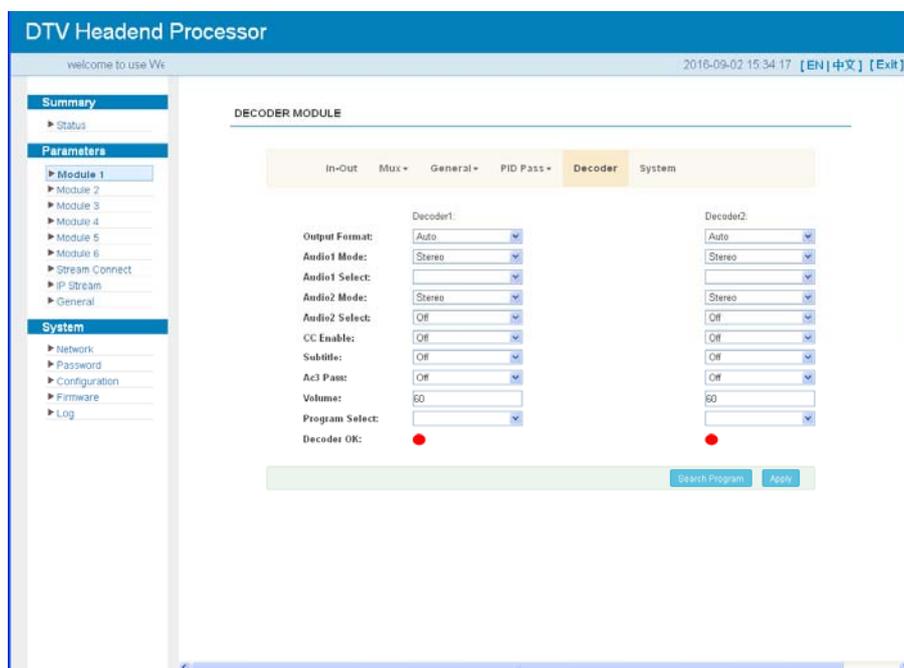


Figure-33

Operation steps are as below:

- 1) Specify the decoding channel.
- 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.

From the menu on up side of the webpage, clicking “System”, it displays the interface (Figure-34) where users can check and set DX702 module’s system information.

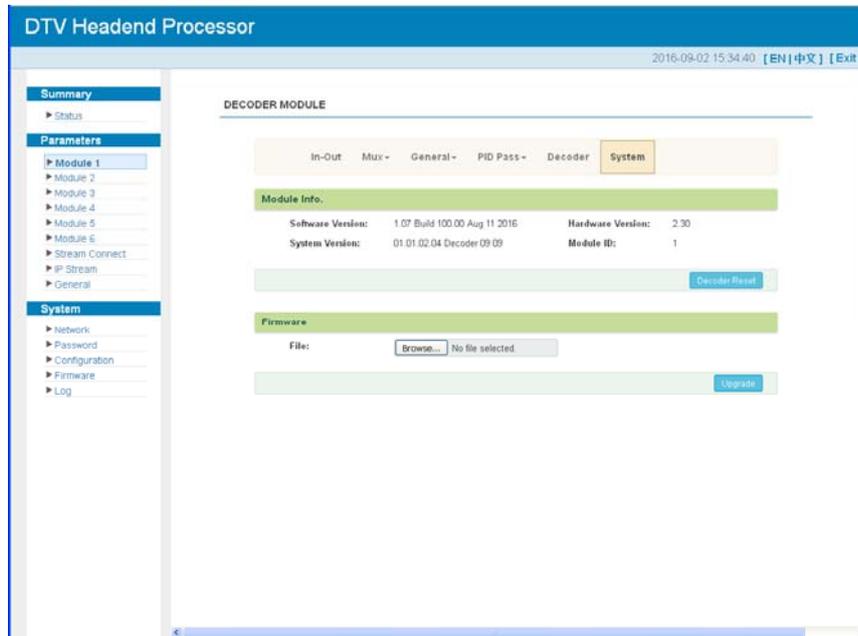


Figure-34

9. DX316/332 16/32 QAM Modulating Module
10. DX308T 8 DVB-T Modulating Module
11. DX308C 8 ATSC Modulating Module
12. DX306I 6 ISDB-Tb Modulating Module

DX316/332/308T/308C/306I is modulating modules which support IP to DVB-C/T/T2/ATSC/ISDB-Tb modulate. DX316/332/308T/308C/306I has a similar NMS interface, so here we just take one as an example.

From the menu on up side of the webpage, clicking “Mux-Output CH X”, it displays the interface as Figure-35. Users can select the output TS channels.

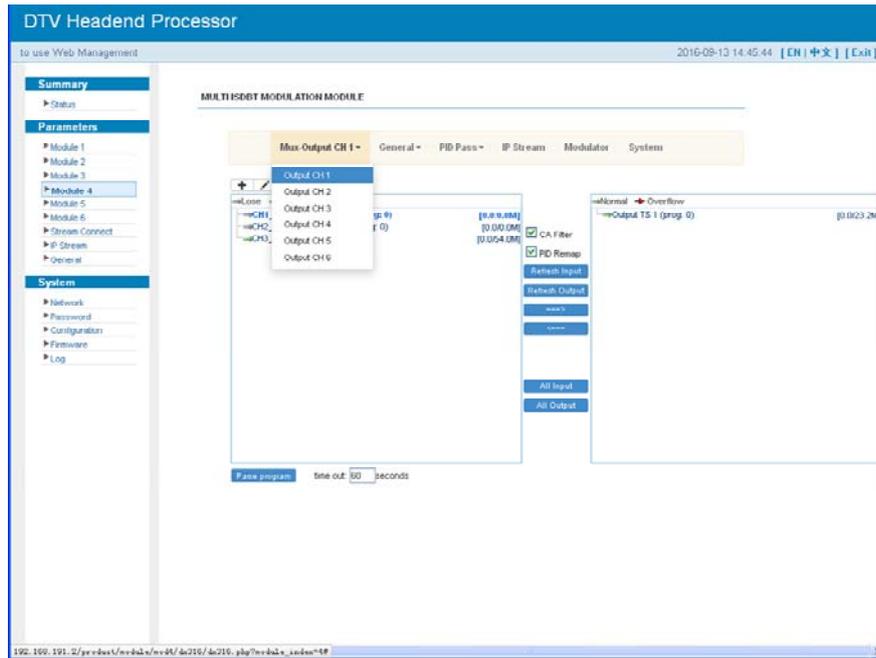


Figure-35

From the menu on up side of the webpage, clicking “General”, it displays the interface where users can set parameters for each output channel. (Figure-36)

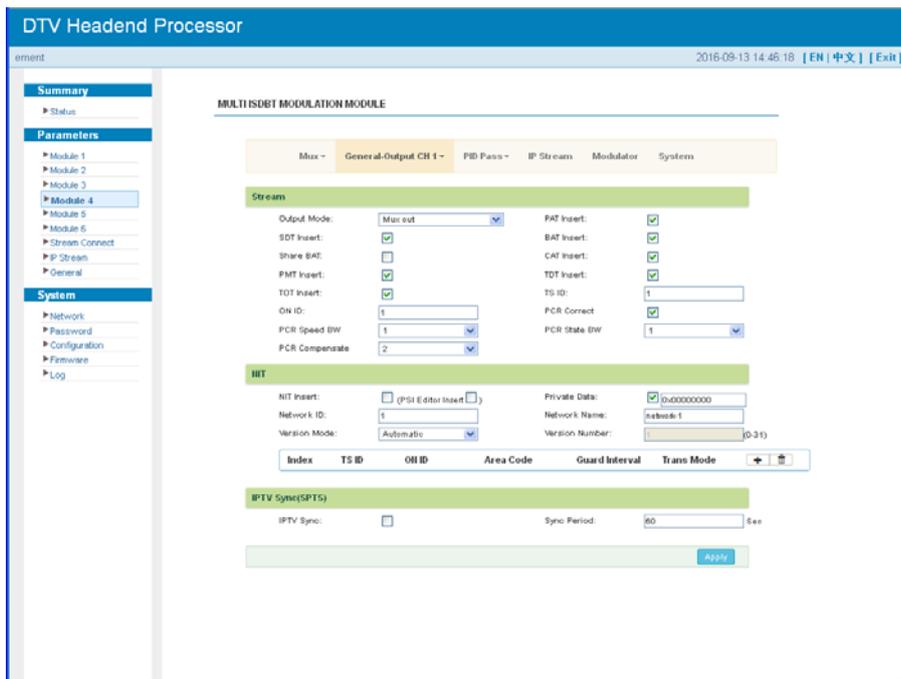


Figure-36

Users click  the interface is display as below, and click  to apply the modified parameters.(Figure-37)



Figure-37

From the menu on up side of the webpage, clicking “PID Pass”, it displays the interface where to add the PIDs which need pass through. (Figure-38)

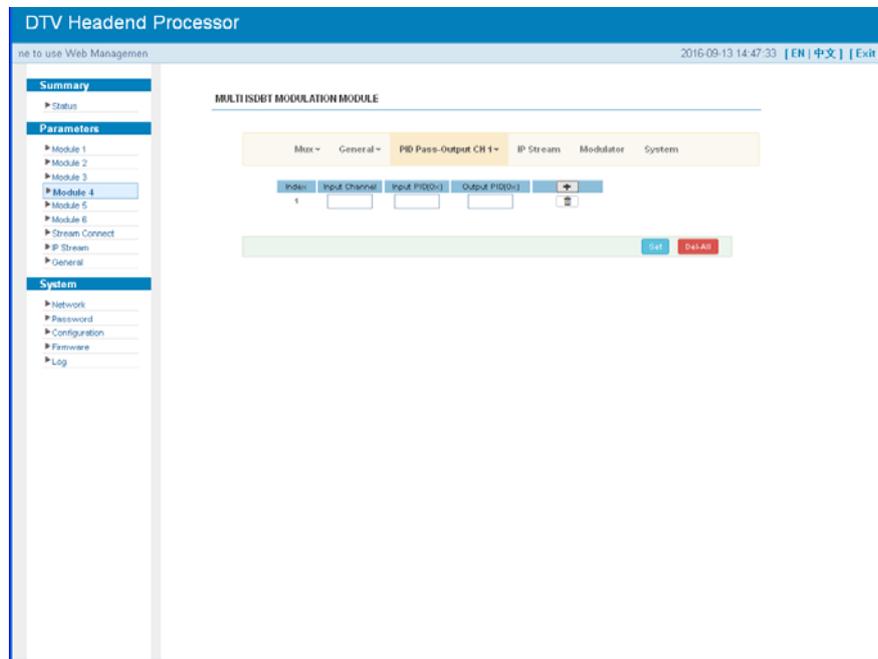


Figure-38

DX306I supports TS to output in IP (6*MPTS) format through the DATA port.

Click ‘IP Stream’, it will display the interface as Figure-39 where to set IP out parameters.

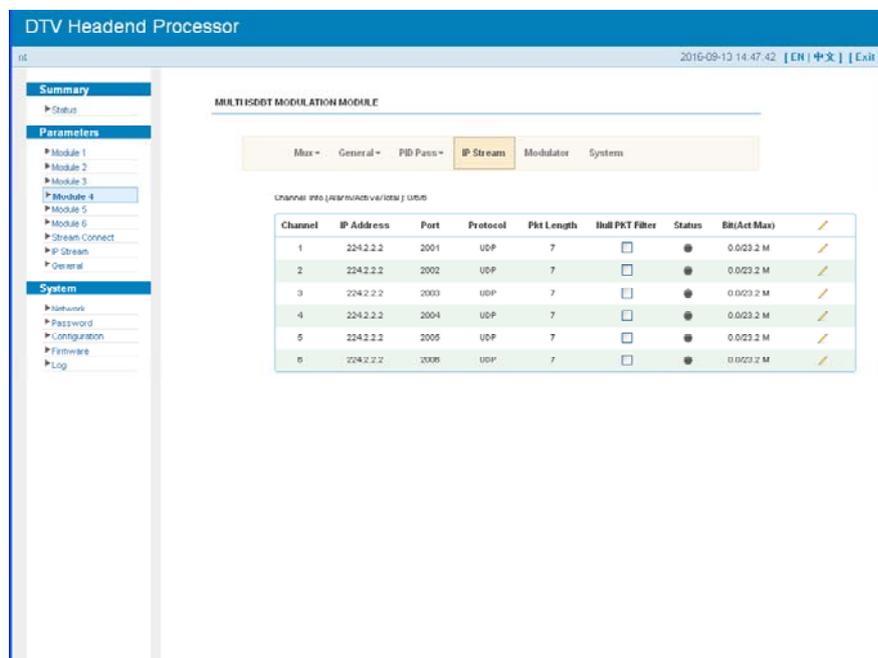


Figure-39

From the menu on left side of the webpage, clicking ‘Modulator’, it will display the interface as Figure-40 where to set RF output parameters.

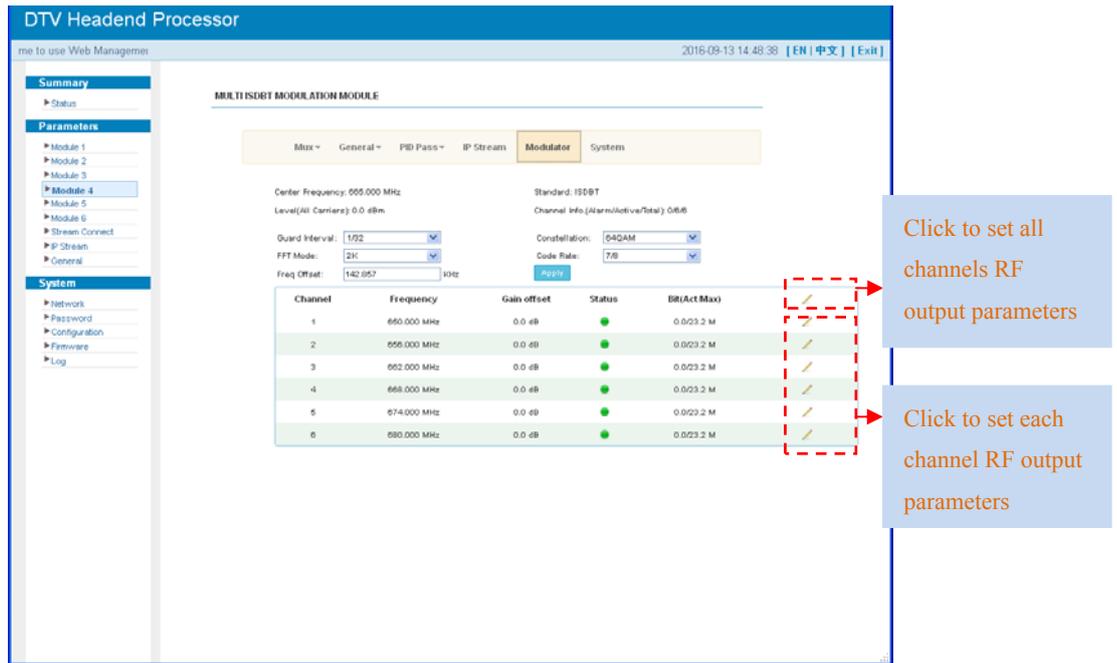
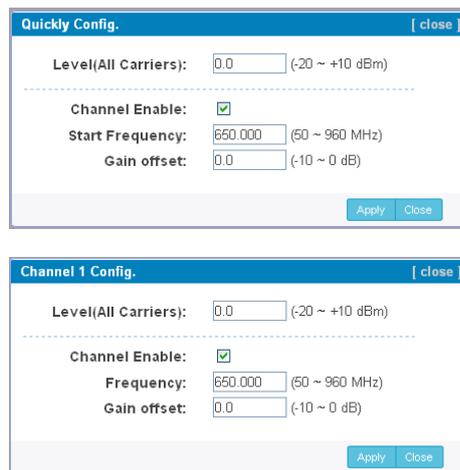


Figure-40



From the menu on up side of the webpage, clicking “System”, it displays the interface (Figure-41) where users can check and set DX306I module’s system information.

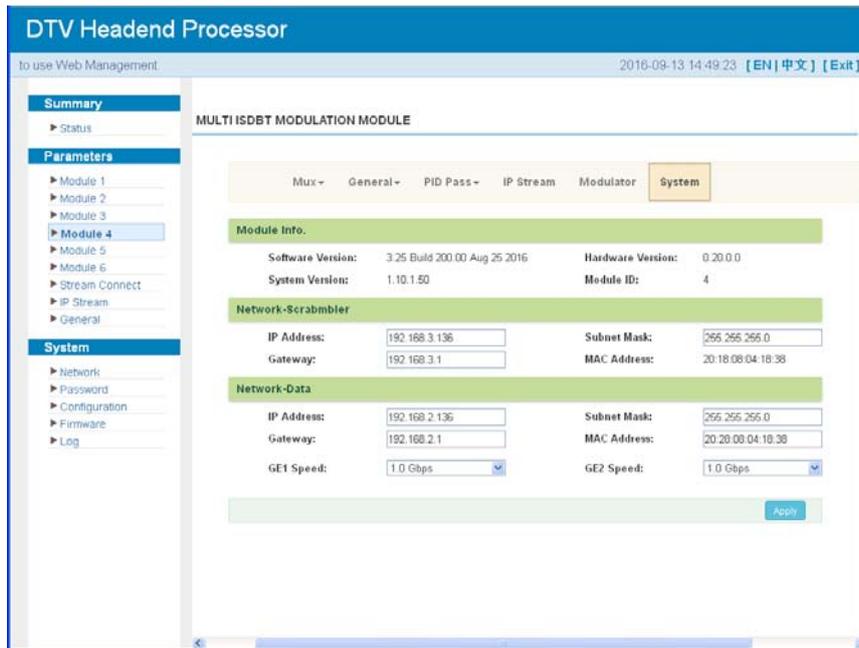


Figure-41

13. DX902 2 Tuner(DVB-S/S2) Descrambling Module

14. DX912 2 Tuner(DVB-C) Descrambling Module

DX902/912 module has 2 DVB-S/S2/DVB-C tuner inputs. Users click “Tuner1-2” to configure the input tuner parameters to receive satellite signals and it display the interface as below (Figure-42):

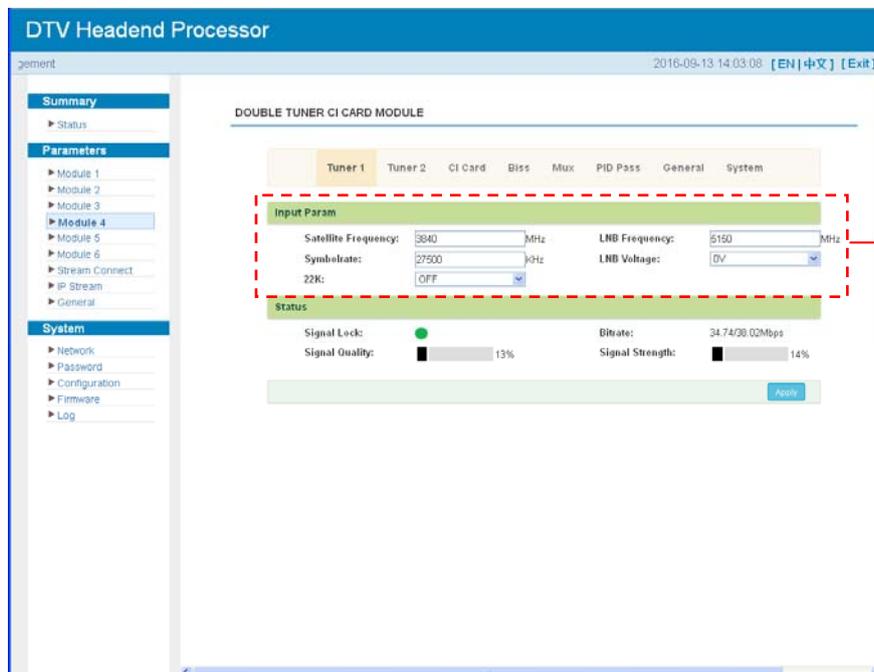


Figure-42

DX902/912 supports 2 CI cards to descramble programs from Tuner input. Users can click and enter ‘CI Card’ to configure the 2 cards respectively. (Figure-43)

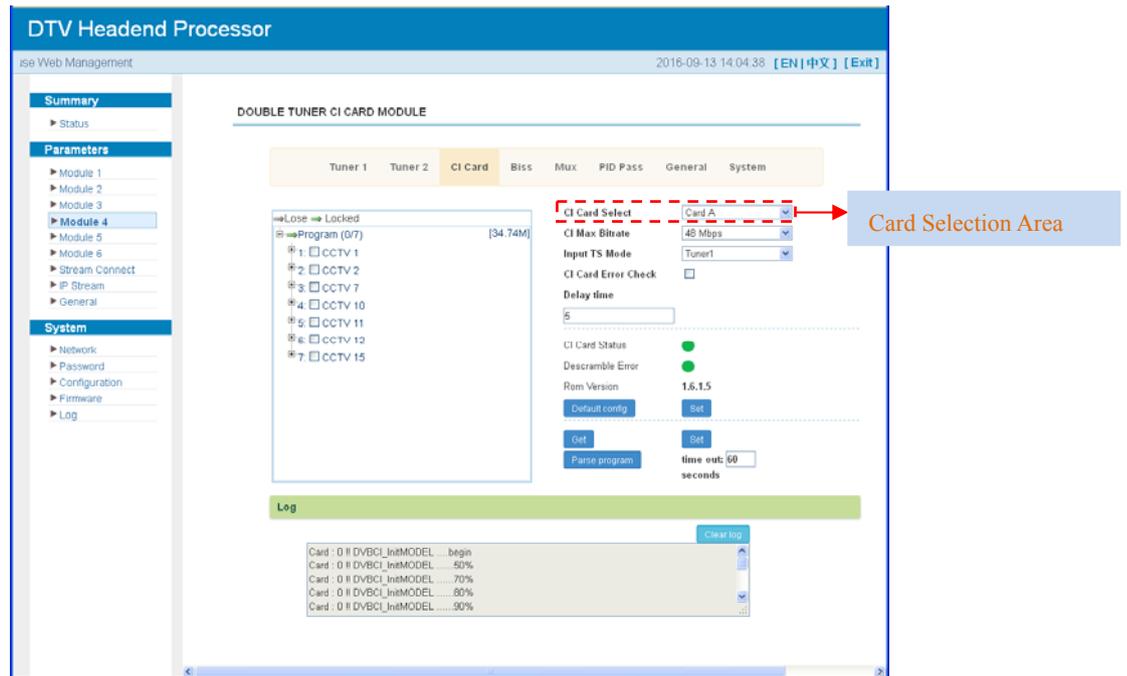
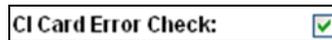


Figure-43

One CI card can be applied to descramble programs from the 2 Tuner input signal sources. ‘Skip CI card’ means to skip the card which is used for FTA stream.



Users can decide whether to enable the card error check function by checking the box.



After configuring CI card parameters, click **Set** button to apply the input data and then click **Parse program** button to parse programs from the channel selected in ‘Input TS Mode’.

The searched out programs will be listed in the ‘Descramble’ box below: (Figure-44)

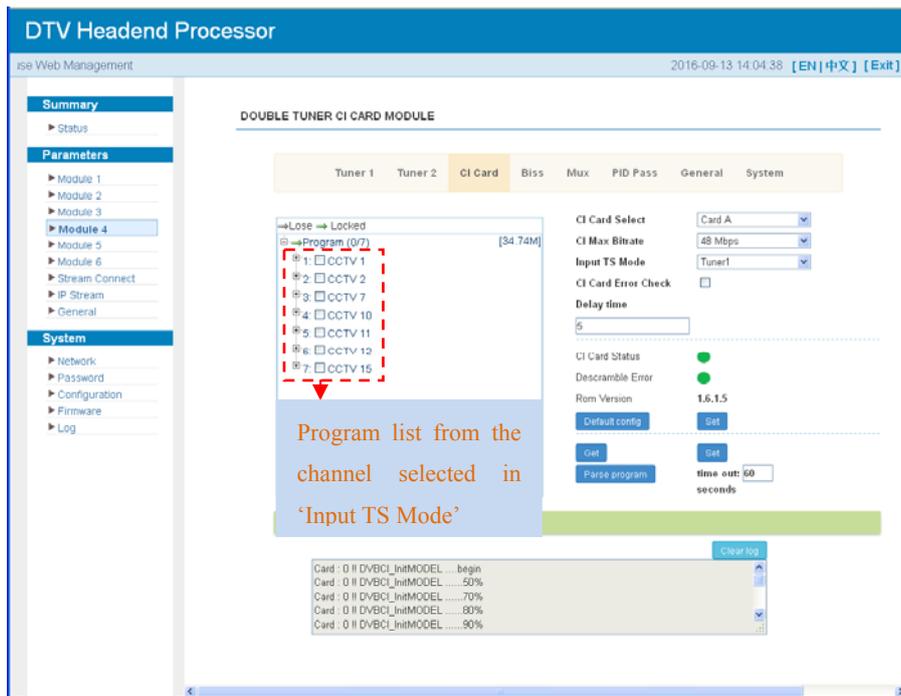
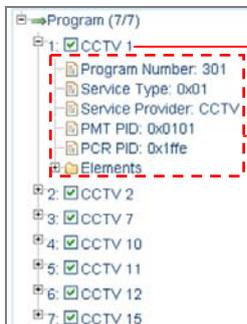


Figure-44

Check the program(s) to be descrambled and click **Parse program** button to start descrambling the checked program(s). The program quantity to be descrambled will depend on the CAM/CI performance you apply to.



Number before slash indicates the programs which have been descrambled.
 Number behind slash indicates the whole programs from the selected channel.

Users can also read the program information by clicking '+' symbol.

From the menu on up side of the webpage, clicking “BISS”, it displays the interface where users can configure 2 BISS and descramble the input channels and it displays the interface as below (Figure-45):

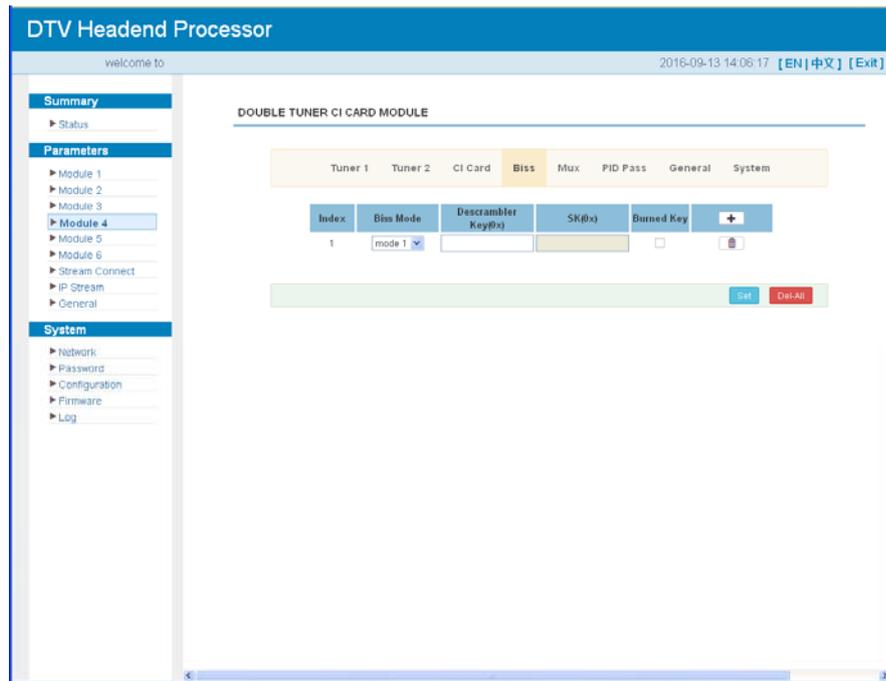


Figure-45

From the menu on up side of the webpage, clicking “Mux”, it displays the interface where users can choose the programs from 2 Tuner and connect input to Mux out. (Figure-46)

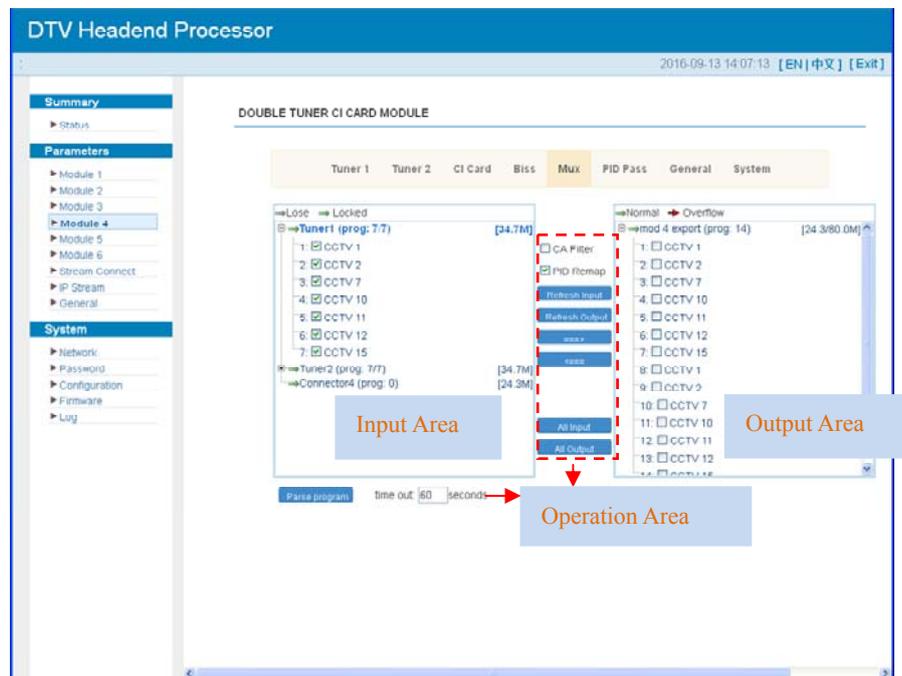


Figure-46

Configure ‘Input Area’ and ‘Output Area’ with buttons in ‘Operation Area’. Instructions are as below:

- CA Filter : To enable/disable the CA filter
- PID Remap: To enable/disable the PID remapping

- To refresh the input program information
- To refresh the output program information
- Select one input program first and click this button to transfer the selected program to the right box to output.
- Similarly, user can cancel the multiplexed programs from the right box.
- To select all the input programs
- To select all the output programs
- To parse programs time limitation of parsing input programs

Program Modification:

The multiplexed program information can be modified by clicking the program in the ‘output’ area. For example, when clicking , it triggers a dialog box (Figure-47) where users can input new information.

Program Information	
Program Name:	<input type="text" value="TV-101"/>
LCN:	<input type="text" value="121"/>
Program Number:	<input type="text" value="121"/>
Service Type:	<input type="text" value="0x01"/>
Service Provider:	<input type="text" value="TV-Provider"/>
PMT PID:	<input type="text" value="0x0020"/>
PCR PID:	<input type="text" value="0x0021"/>
MPEG-2 Video PID:	<input type="text" value="0x0022"/>
MPEG-1 Audio PID:	<input type="text" value="0x0023"/>
<input type="button" value="Save"/> <input type="button" value="Close"/>	

Figure-47

Input new data and click ‘Save’ button at last to confirm the modification.

From the menu on up side of the webpage, clicking “PID Pass”, it displays the interface where to add the PIDs which needs pass through. (Figure-48)

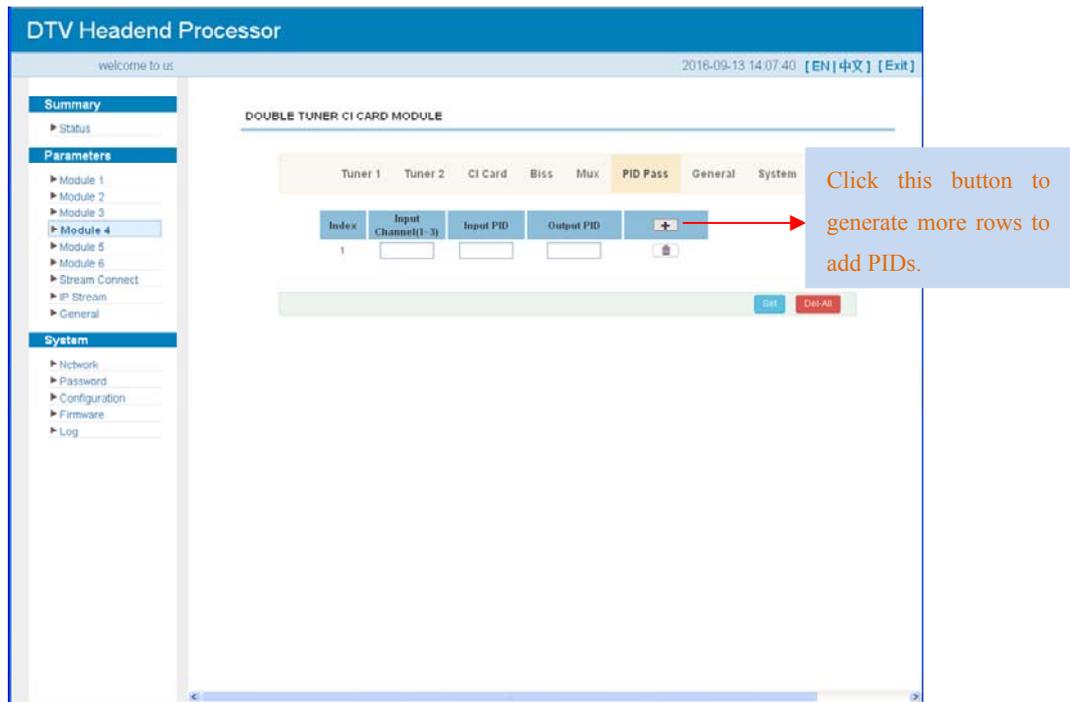


Figure-48

From the menu on up side of the webpage, clicking “General”, user can set the parameters of the each output carriers. It displays the interface as Figure-49.

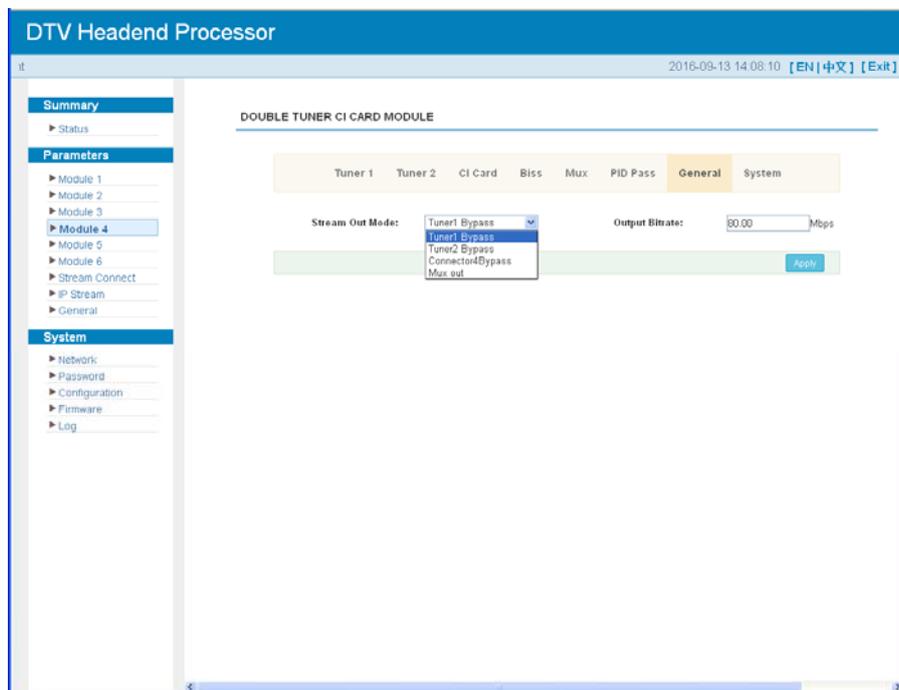


Figure-49

From the menu on up side of the webpage, clicking “System”, it displays the interface (Figure-50) where users can check and set this module’s system information.

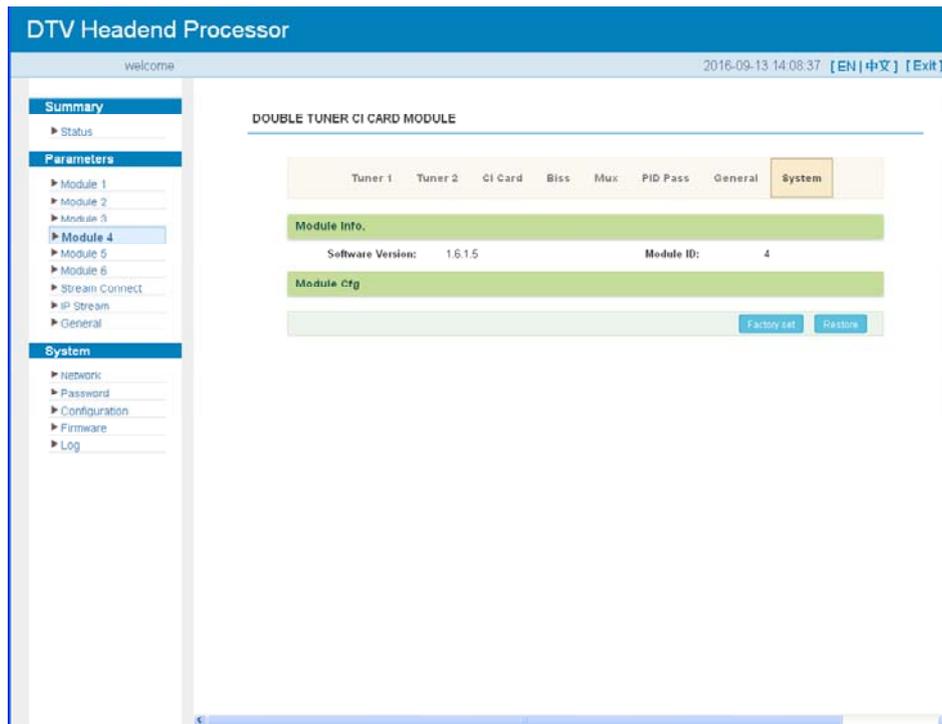


Figure-50

15. DX904 4 FTA Tuner(DVB-S/S2) Module

16. DX914 4 FTA Tuner(DVB-C) Module

17. DX944 4 FTA Tuner(DVB-T/T2) Module

DX904/914/944 module has 4 DVB-S/S2/DVB-C/DVB-T/T2 tuner inputs. Users click “Tuner1-4” to set the RF parameters and it display the interface as below (Figure-51):

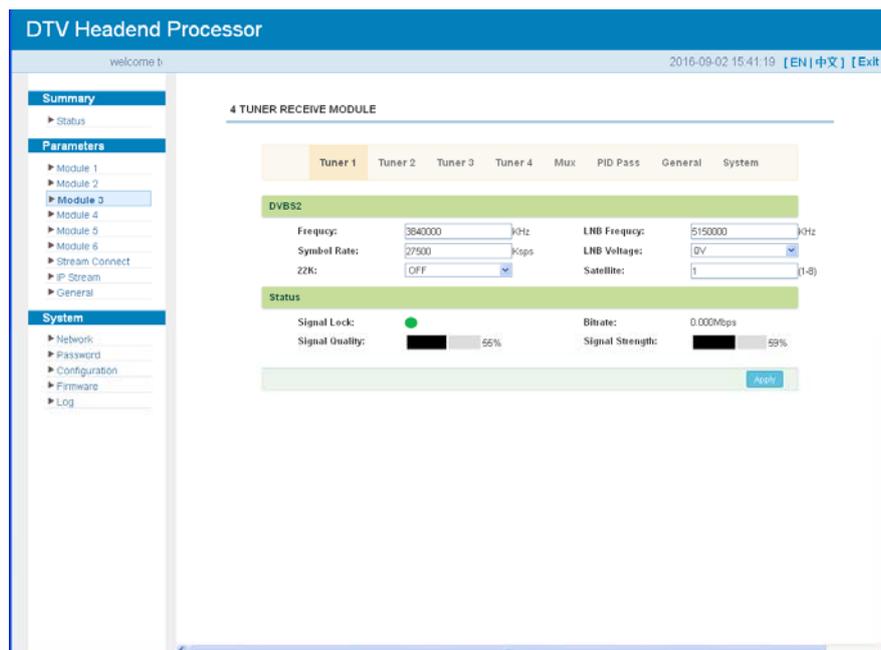
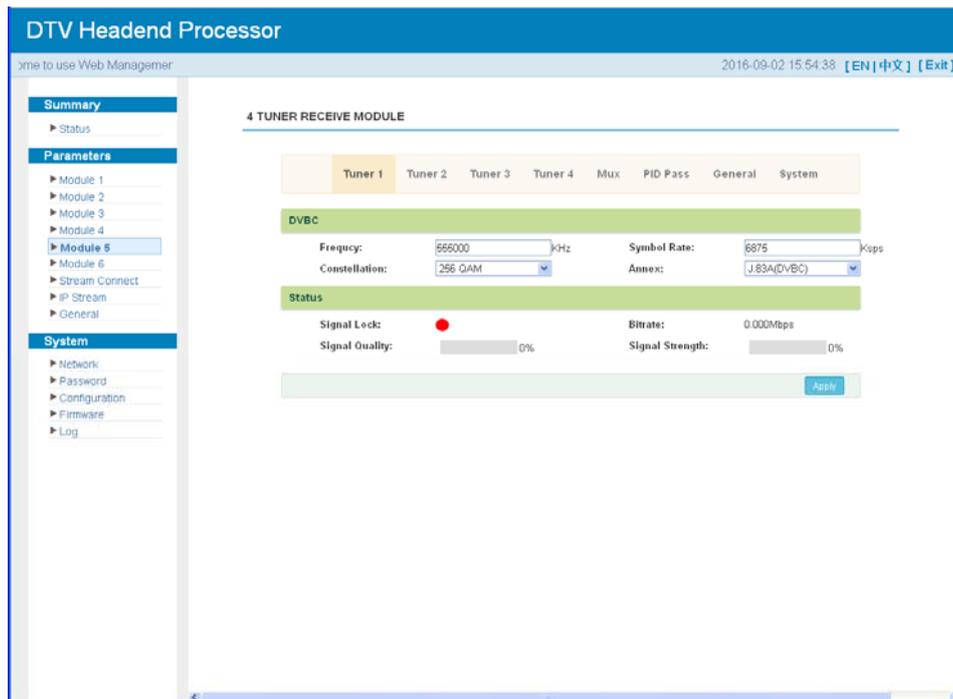


Figure-51



Because of DX904/914/944 module without output port, it should be used combine with other module. Users click “Mux” to set the mux parameters, and it display the interface as below (Figure-52):

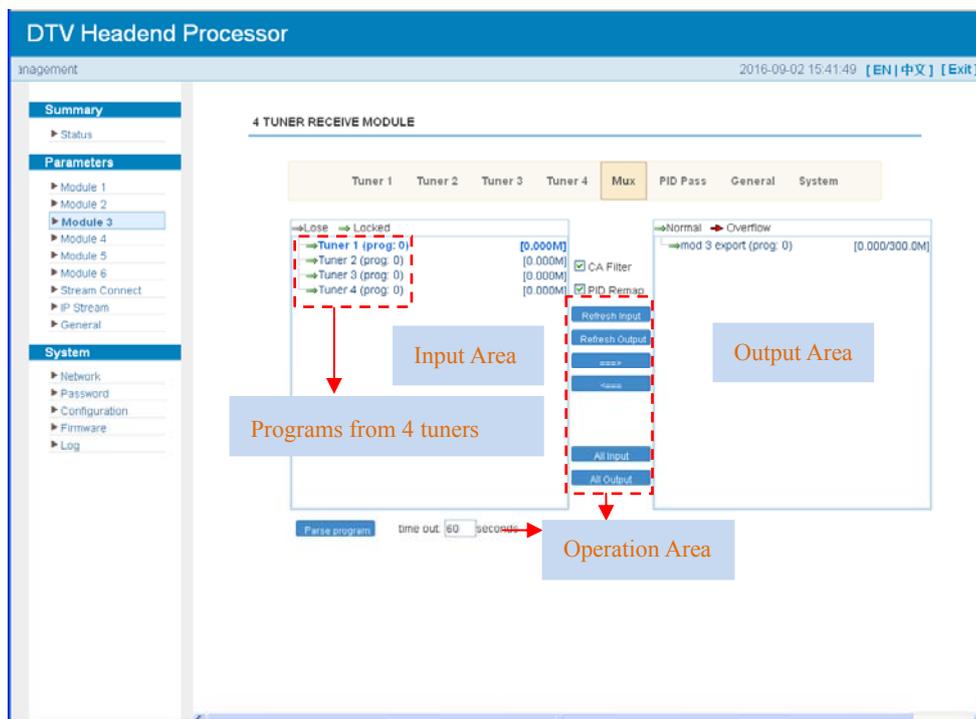


Figure-52

Configure ‘Input Area’ and ‘Output Area’ with buttons in ‘Operation Area’. Instructions are as below:

CA Filter : To enable/disable the CA filter

PID Remap: To enable/disable the PID remapping

To refresh the input program information

To refresh the output program information

Select one input program first and click this button to transfer the selected program to the right box to output.

Similarly, user can cancel the multiplexed programs from the right box.

To select all the input programs

To select all the output programs

To parse programs time limitation of parsing input programs

Program Modification:

The multiplexed program information can be modified by clicking the program in the ‘output’ area. For example, when clicking TV:1101 , it triggers a dialog box (Figure 53) where users can input new information.

Figure-53

From the menu on up side of the webpage, clicking “PID Pass”, it displays the interface where to add the PIDs which needs pass through. (Figure-54)

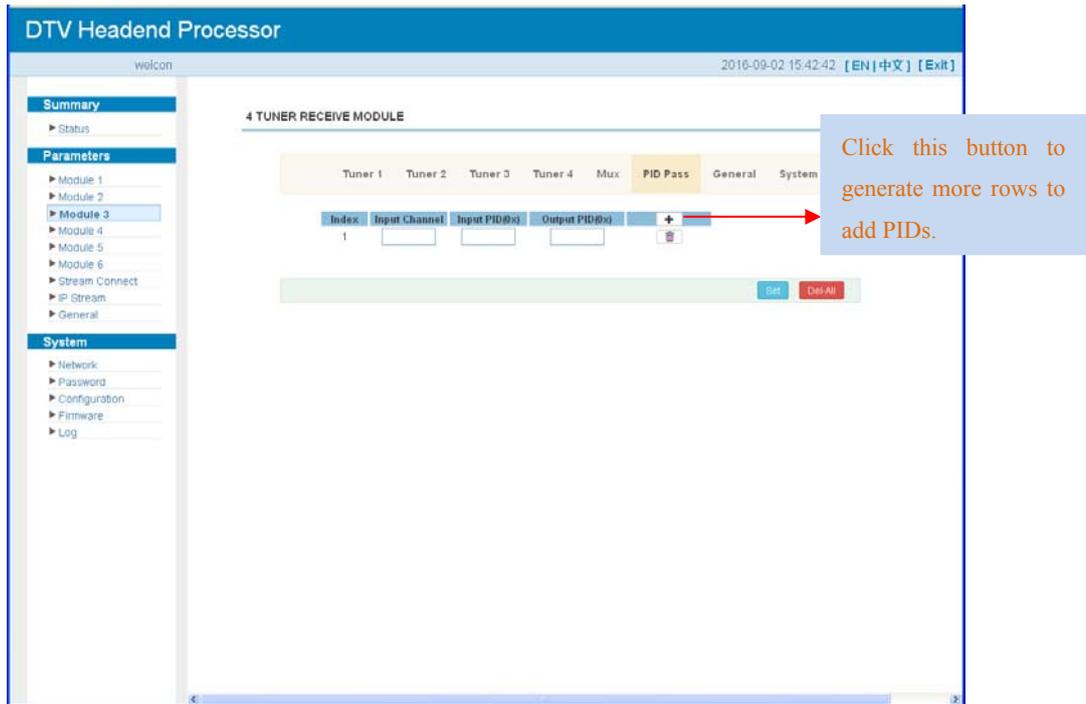


Figure-54

From the menu on up side of the webpage, clicking “General”, user can set the general parameters of this module. It displays the interface as Figure-55.

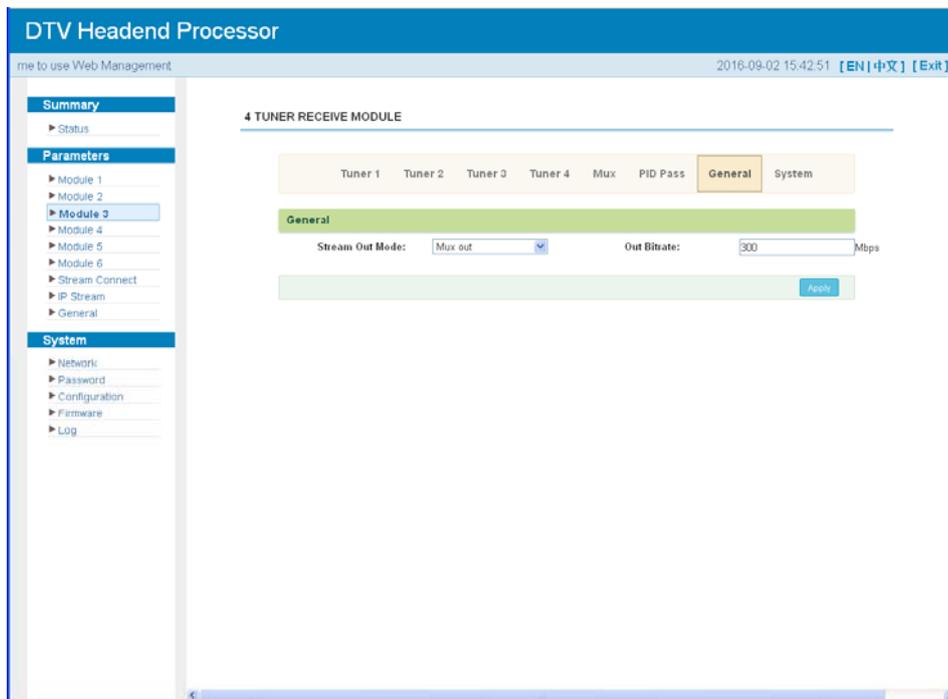


Figure-55

From the menu on up side of the webpage, clicking “System”, it displays the interface (Figure-56) where users can check and set DX904 module’s system information.

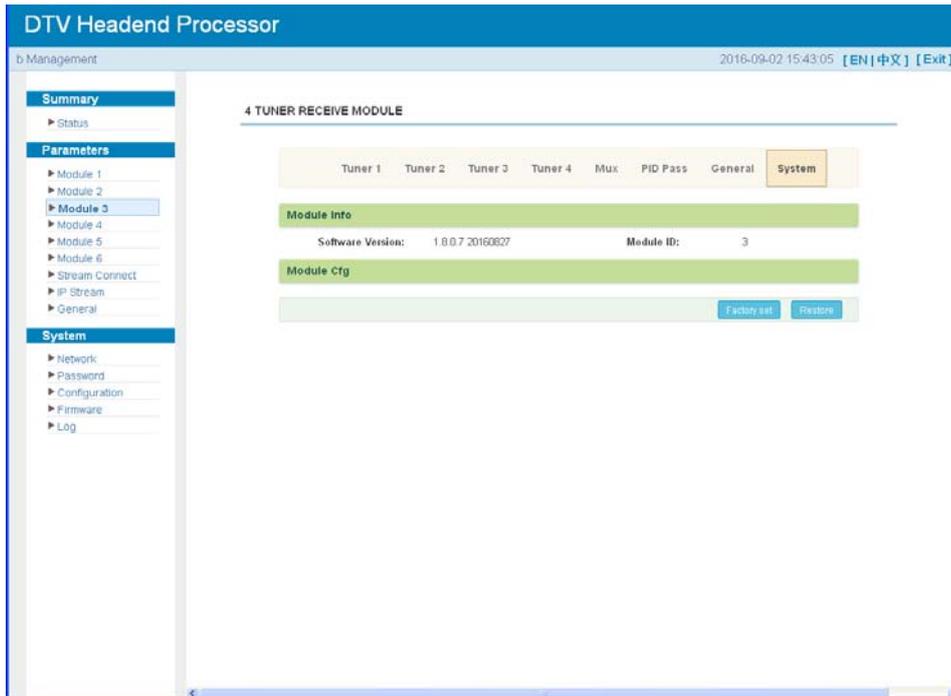


Figure-56

Parameters →Stream Connect:

From the menu on left side of the webpage, clicking “Stream Connect”, user can select programs from each module and mux to connector X. DHP400 support 6 module output, 8 MPTS (only output via GE2) and 512 SPTS (only output via GE1), and ASI output programs are same as MPTS2.It displays the interface as Figure-57.

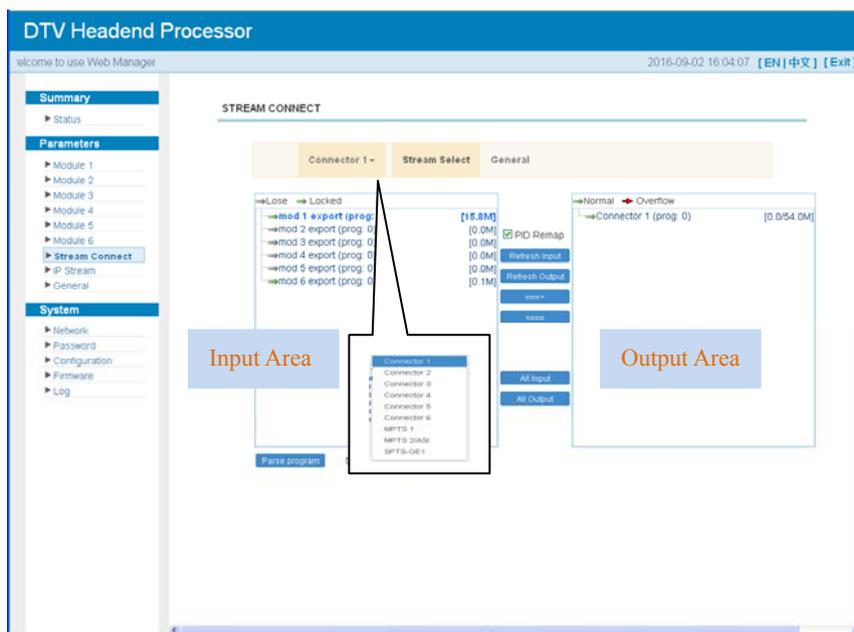


Figure-57

Here “Module X export indicates” the TS from module X, “Connector X” indicates the TS will be output via moduleX.

Configure 'Input Area' and 'Output Area' with buttons in 'Operation Area'. Instructions are as below:

PID Remap: To enable/disable the PID remapping

To refresh the input program information

To refresh the output program information

Select one input program first and click this button to transfer the selected program to the right box to output.

Similarly, user can cancel the multiplexed programs from the right box.

To select all the input programs

To select all the output programs

To parse programs seconds time limitation of parsing input programs

Program Modification:

The multiplexed program information can be modified by clicking the program in the 'output' area. For example, when clicking TV:1101 , it triggers a dialog box (Figure 58) where users can input new information.

Figure-58

From the menu on up side of the webpage, clicking "General", user can set the general parameters of the corresponding connector. It displays the interface as Figure-59.

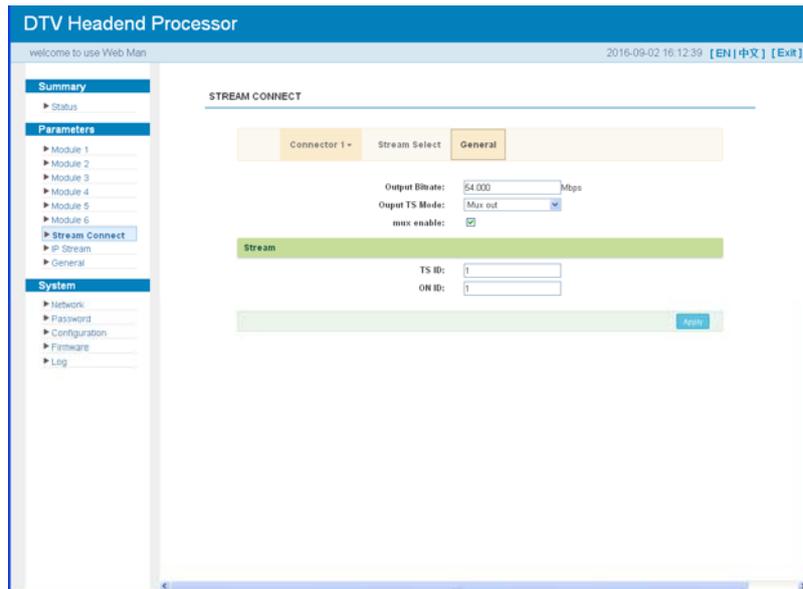


Figure-59

Note: users can only click “Stream Select ” to check the stream connect status when stay on “General” web page.(Figure-60)

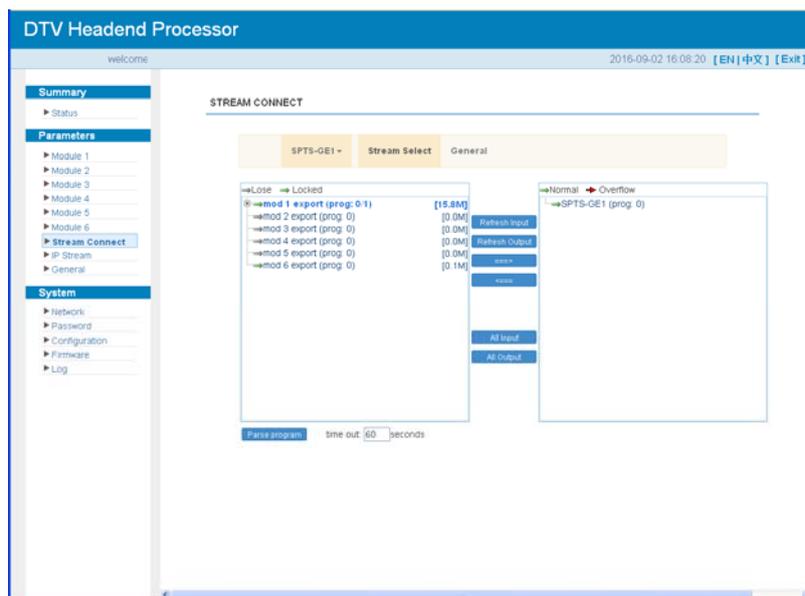


Figure-60

Parameters → IP Stream:

DHP400 supports TS to output in IP format through the DATA port.

Click ‘IP Stream’, it will display the interface as Figure-61 where to set IP out parameters.

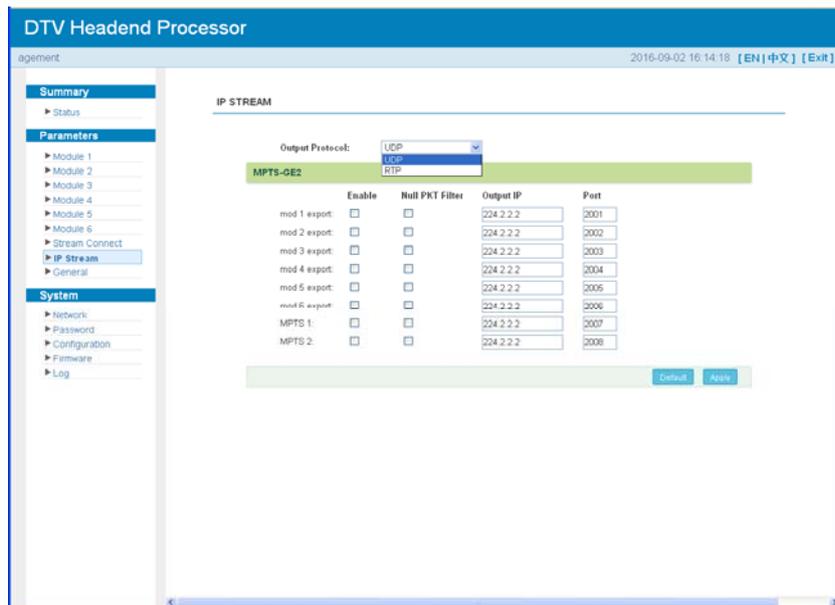


Figure-61

Parameters → General:

users can only click “General” to debug module.(Figure-62)

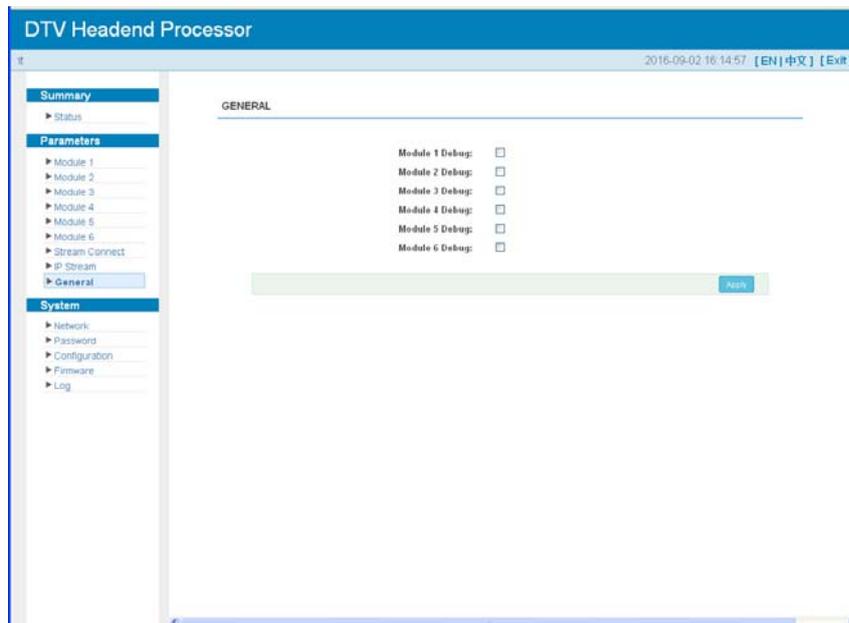


Figure-62

System → Network:

Click ‘Network’, it will display the interface as Figure-63 where to set network parameters.

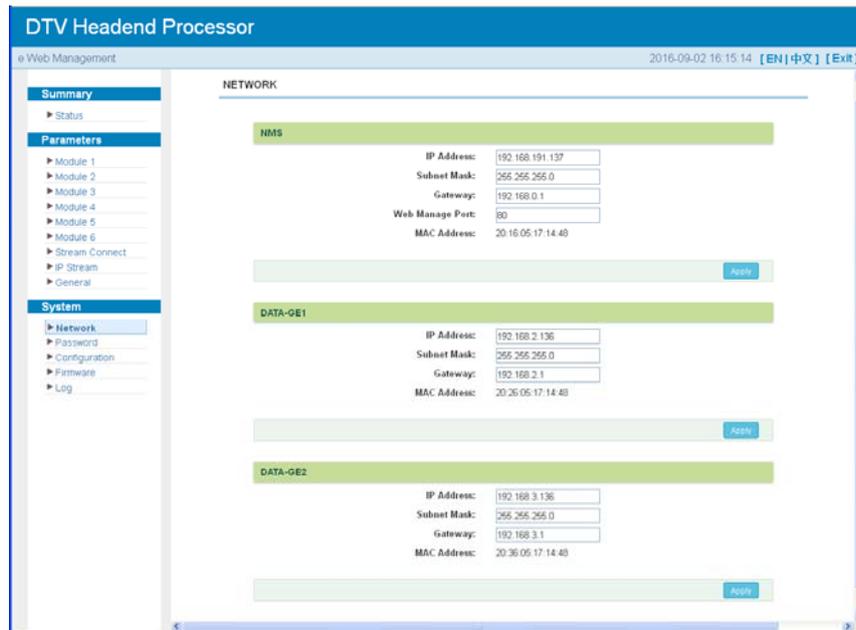


Figure-63

System → Password:

From the menu on left side of the webpage, clicking “Password”, it will display the screen as Figure-64 where to set the login account and password for the web NMS.

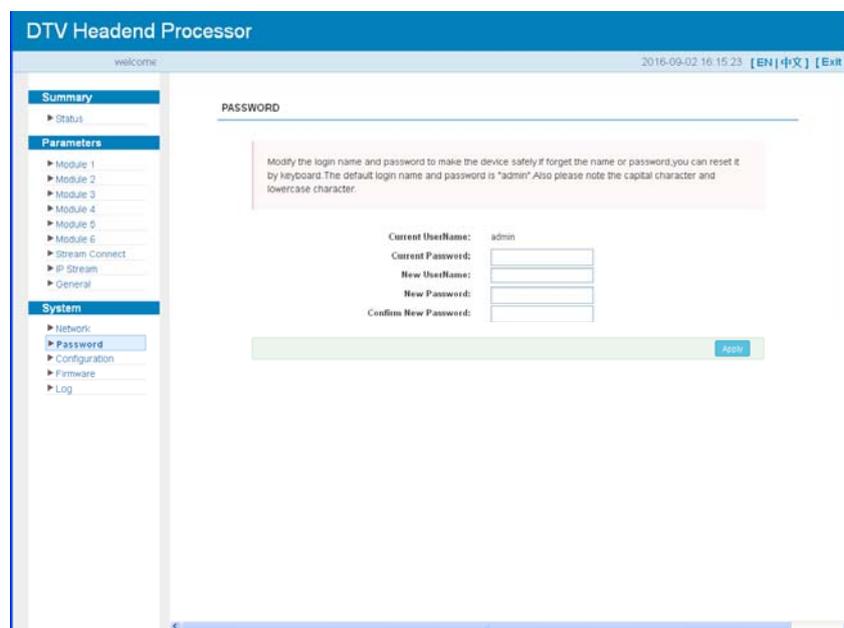


Figure-64

System → Configuration:

From the menu on left side of the webpage, clicking “Configuration”, it will display the screen as Figure-65 where to set your configurations for the device.

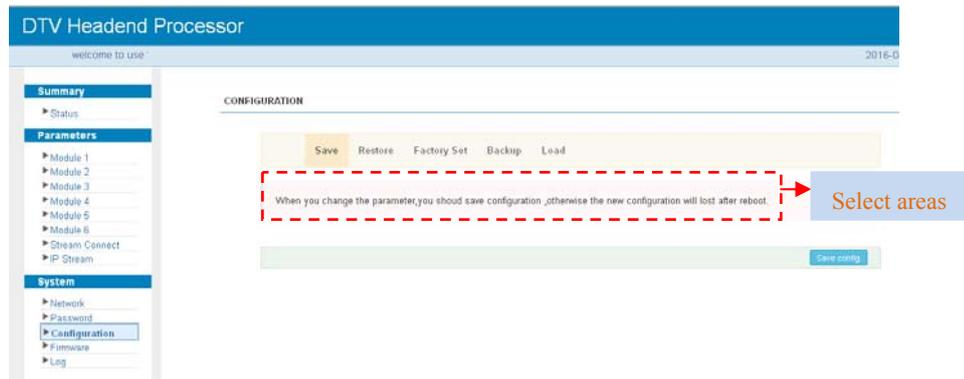


Figure-65

System → Firmware:

From the menu on left side of the webpage, clicking “Firmware”, it will display the screen as Figure-66 where to update firmware for the device.

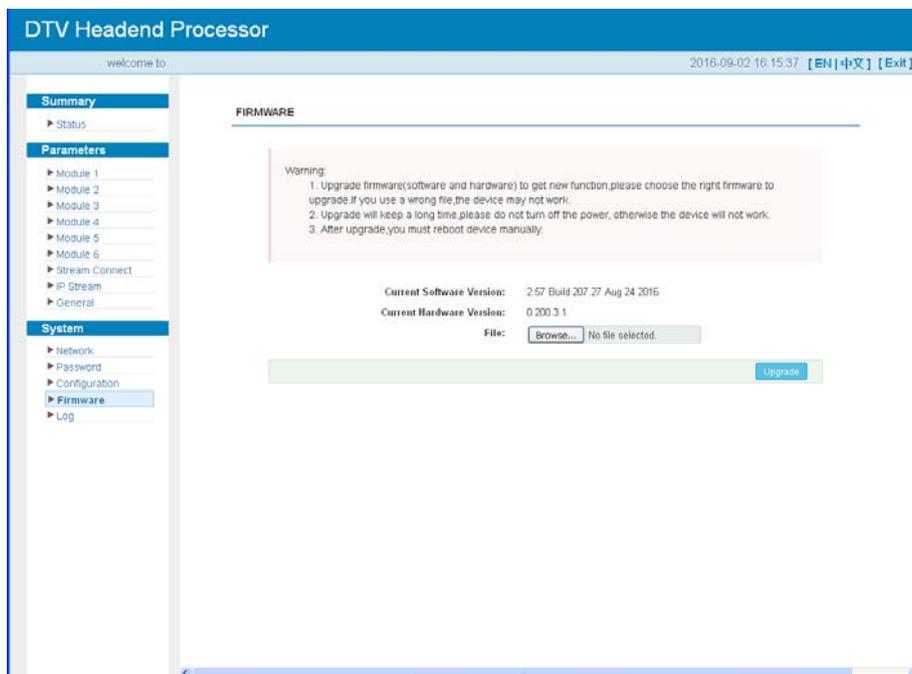


Figure-66

System → Log:

From the menu on left side of the webpage, clicking “Log”, it will display the screen as Figure-67 where to check the “Log”.

The screenshot shows the DTV Headend Processor web interface. The top bar displays 'welcome to' and the date '2016-09-02 16:15:43' with language options '[EN | 中文]' and an '[Exit]' button. The left sidebar contains a navigation menu with the following sections:

- Summary**
 - Status
- Parameters**
 - Module 1
 - Module 2
 - Module 3
 - Module 4
 - Module 5
 - Module 6
 - Stream Connect
 - IP Stream
 - General
- System**
 - Network
 - Password
 - Configuration
 - Firmware
 - Log**

The main content area is titled 'LOG' and shows a kernel log with the following messages:

```

Log Type: Kernel Log Auto Refresh: 0 Export
[ 0.000000] Booting Linux on physical CPU 0x0
[ 0.000000] Linux version 3.19.0-xilinx (root@localhost.localdomain) (gcc version 4.9.1 (Sourcery CodeBench Lite
[ 0.000000] CPU: ARMv7 Processor [413fc090] revision 0 (ARMv7), cr=18c5387d
[ 0.000000] CPU: PIPT / VIPT nonaliasing data cache, VIPT aliasing instruction cache
[ 0.000000] Machine model: xlnx_zynq-7000
[ 0.000000] cma: Reserved 16 MB at 0x15800000
[ 0.000000] Memory policy: Data cache writealloc
[ 0.000000] On node 0 totalpages: 58504
[ 0.000000] free_area_init_node: node 0, pgdat 40560200, node_mem_map 57cf0000
[ 0.000000] Normal zone: 768 pages used for memmap
[ 0.000000] Normal zone: 0 pages reserved
[ 0.000000] Normal zone: 98304 pages, LRU 0, balloc=31
[ 0.000000] PERCPU: Embedded 9 pages/cpu @67cd3000 @8128 r8192 d20544 u36864
[ 0.000000] pcpu-alloc: s8128 r8192 d20544 u36864 alloc=9*4096
[ 0.000000] pcpu-alloc: [0] 0 [0] 1
[ 0.000000] Built 1 zonelists in Zone order, mobility grouping on. Total pages: 97536
[ 0.000000] Kernel command line: console=ttyPS0,115200 root=/dev/ram rw earlyprintk
[ 0.000000] log_buf_len individual max cpu contribution: 131072 bytes
[ 0.000000] log_buf_len total cpu_extra contributions: 131072 bytes
[ 0.000000] log_buf_len min size: 131072 bytes
[ 0.000000] log_buf_len: 262144 bytes
[ 0.000000] early log buf free: 129664(98%)
[ 0.000000] PID hash table entries: 3049 (order: 1, 8192 bytes)
[ 0.000000] Dentry cache hash table entries: 65536 (order: 6, 262144 bytes)
[ 0.000000] Inode-cache hash table entries: 32768 (order: 5, 131072 bytes)
[ 0.000000] Memory: 359188K/993216K available (3790K kernel code, 219K rwdata, 1272K rodata, 192K init, 291
[ 0.000000] Virtual kernel memory layout:
[ 0.000000] vector : 0xffff0000 - 0xffff1000 ( 4 kB)
[ 0.000000] fixmap : 0xffff0000 - 0xffff0000 (3072 kB)
[ 0.000000] vmalloc : 0x58600000 - 0xff000000 (2664 MB)
[ 0.000000] lowmem : 0x40000000 - 0x50000000 ( 304 MB)
[ 0.000000] pkmap : 0x3fe00000 - 0x40000000 ( 2 MB)
[ 0.000000] modules : 0x3f000000 - 0x3fe00000 ( 14 MB)

```

Figure-67

Chapter 5 Troubleshooting

DEXIN's ISO9001 quality assurance system has been approved by CQC organization. For guarantee the products' quality, reliability and stability. All DEXIN 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 DEXIN. 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

- DHP400 Head-end processor
- User's Manual
- Power Cord