

HP3564H DVB-T/T2 HD IRD User Manual



Catcast Technology Co., Ltd. (Chengdu)



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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

HP3564H HD IRD is Catcast's all-in-one device which integrates demodulation, de-scrambler, re-mux and decoding in one case to convert RF signals into audio/video (CVBS/YpbPr/HDMI/SDI) output.

It is a 1-U case which supports 2 tuner inputs to receive signal from terrestrial. The two CAMs/CIs accompanied and BISS modules can descramble the programs input from encrypted RF, ASI and IP.

Its pluggable structure design greatly facilitates the change of modules (demodulator or decoder) as needed.

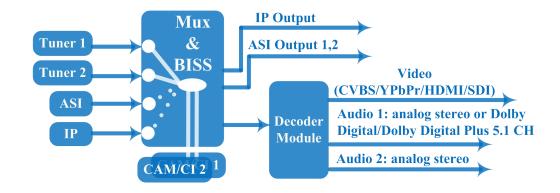
To meet customers' various requirements, HP3564H is also equipped with ASI and IP input for re-mux, and output with 2 ASI ports and IP port.

1.2 Features

- Demodulation + descrambler +re-mux+decoder modules in one box
- 2 DVB-T/T2 Tuner inputs
- 1 ASI & 1 IP (UDP) input for re-mux
- One CAM can decrypt multiple programs from Tuners/ASI/IP
- Support BISS descrambling (Up to 120Mbps)
- Support MPEG2 and MPEG4 AVC/H.264 decoding
- Dual channel stereo audio output, or one channel Dolby Digital/Dolby Digital Plus (5.1) channel output (for HDMI/SDI out)
- Support Dolby Digital/Dolby Digital Plus Decoding and passthrough
- IP (1 MPTS & 8 SPTS) over UDP and RTP/RTSP output; ASI out
- Support CC and Subtitle
- Support maximum 128 PID mapping per input
- Pluggable and changeable demodulator and decoder modules
- LCD display, Remote control and Firmware, web NMS management
- Updates via web

1.3 Specifications

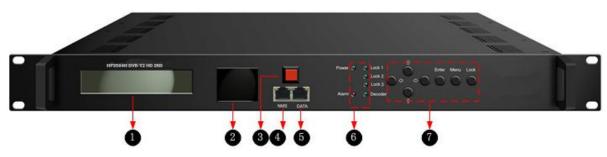
Input	
2 x Tuner, F	type
	for re-mux, BNC interface
	or re-mux (UDP)
-	tingSection
DVB-T/T2	
Input Frequ	ency 30MHz ~999.999 MHz
Bandwidth	6/7/8 M bandwidth
Descramb	ling
CAM/CI Qu	antity 2
BISS Mode	Mode 1, Mode E; up to 120Mbps
Output	
	1*MPTS& 8*SPTS over UDP, RTP/RTSP.
Output	100Base-T Ethernet interface(unicast / multicast)
2×ASI	BNC interface, mirrored out
	Video Interface: 1xCVBS/YPbPr/HDMI/SDI
	Video Decode: MPEG-2;
	MPEG4 AVC/H.264
Decode	Resolution: 480i, 480p, 576i, 576p, 720p@50/59.94/60, 1080i@50/59.94/60
Output	Chroma: 4:2:0
	Audio Interface: 2 x Stereo/4xmono, HDMI, SDI
	Audio Decode: MPEG 1 Layer II, LC-AAC, HE-AAC, Dolby Digital/ Dolby Digital Plus
	Audio Output Mode: Left, Right, Stereo, 5.1 CH (for HDMI/SDI out only)
System	
Local interfa	ace LCD + control buttons
Remote	Web-server Management
manageme	nt
Language	English
Upgrade	USB, web management
General	
Power supp	ly AC 100V~240V
Dimensions	482*300*44.5mm
Weight	3.5kgs
Operation t	emperature 0~45℃



1.4 Principle Chart

1.5 Appearance and Description

Front Panel Illustration:



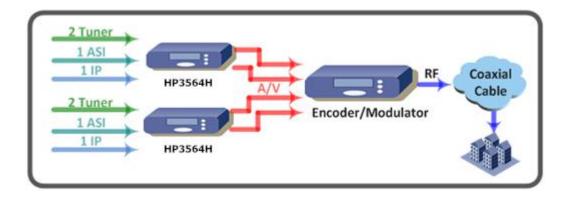
1	Monitor LCD display for device control and configuration			
1				
2	Mini LCD TV for decoding			
3	Mini LCD TV power switch			
4	NMS Port (for PC connection)			
5	DATA Port (for IP stream input &output)			
6	Indicators Area (Lock 1&2: to indicate RF input signal lock			
	status; Lock 3:to indicate the IP or ASI signal Lock status			
	Decoder: to indicate the decoding status)			
	Up/Down/Left/Right Buttons			
7	Enter Key			
	Menu Key			
	Lock Key			

Rear Panel Illustration



	1	USB upgrade port		
	2	HDMI video/audio output		
	3	Component video output (YPbPr)		
Decoder Board	4	Composite video output (CVBS)		
	5	SDI video/audio output		
	6	Analog stereo audio out 1 (R/L)		
	7	Analog stereo audio out 2 (R/L)		
Tuner Receiving	8	CAMs /Smart card slots A & B		
Board 9		RF signal input and loop-through 1 & 2		
10		ASI input Port for re-mux		
11		ASI mirrored output ports		
12		Power switch/Fuse/Socket		
	13	Grounding Wire		

1.6 System Connection Sample



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:

- HP3564H DVB-T2 HD IRD
- User's Manual
- HDMI Cable
- YPbPr Cable
- CVBS Cable
- SDI Cable
- Audio adapt cables
- Power Cord

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

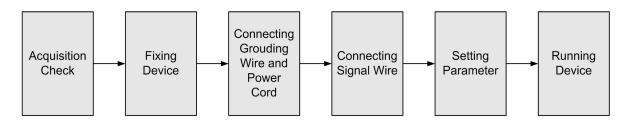
2.2 Installation Preparation

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
- Connecting signal cables
- Connecting communication port with PC

2.2.1 Device's Installation Flow Chart Illustrated as following:



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/ 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 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 25mm².

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 25mm².

2.2.5 Device Grounding

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

2.3 Wire's Connection

• 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 to HP3564H, 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:

2.4.1 HP3564H DVB-T2 HD IRD Cables Illustration:

• IP Input/output Cable Illustration:



• Tuner Cable Illustration:



• ASIInput/output Cable Illustration:



• Video& Audio output Cable Illustration: (for connection between the

IRD and TV set or home theater)





• Audio adapt cables Illustration: (for connection between the IRD and

TV set)



Chapter 3 Operation

The front panel of HP3564H DVB-T2 HD IRD is the user-operating interface and the equipment can be conveniently operated and managed according to the procedures displayed on the LCD:

Keyboard Function Description:

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

ENTER: Activate the parameters which need modifications, or confirm the change after modification.

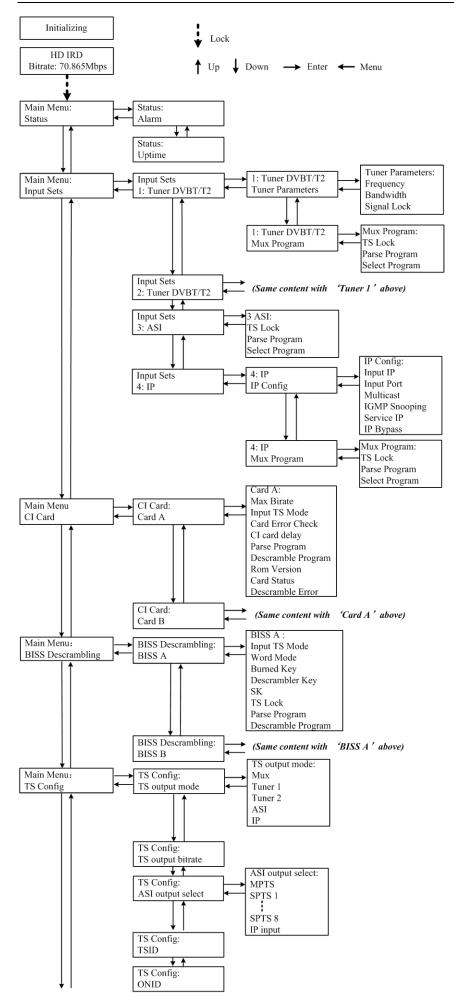
LEFT/RIGHT: Choose and set the parameters.

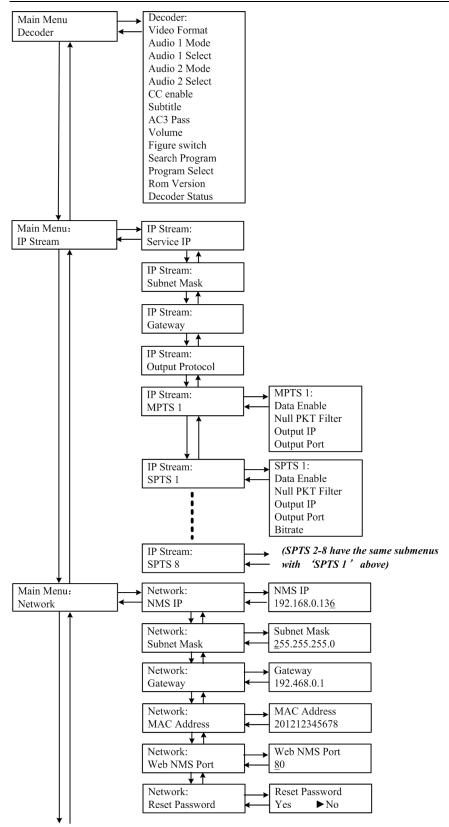
UP/DOWN: Modify activated parameter or paging up/down when parameter is inactivated.

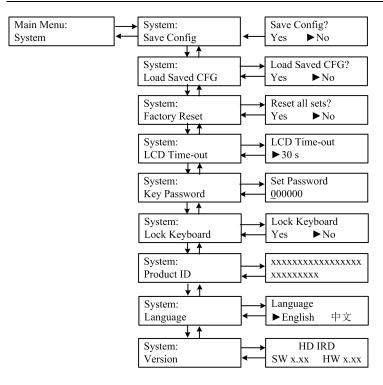
LOCK: Lock the screen/cancel the lock state. After pressing the lock key, the LCD will display the current configuring state.

3.1LCD Menu Class Tree

(See next page :)

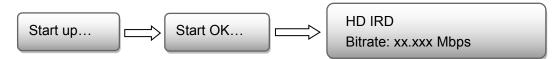






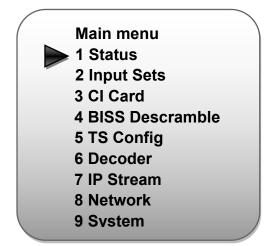
3.2 General Setting

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



- **HD IRD**: Device's name
- Bitrate: xx.xxx MHz indicates the current effective bitrate multiplexed output.

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



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

3.2.2Input Sets

HP3564H supports 2 tuners input, 1 ASI input and 1 IP stream input. Users can enter 'Input Sets' to configure the tuner/IP parameters to receive the transport streams and select programs to mux out. It displays as below:



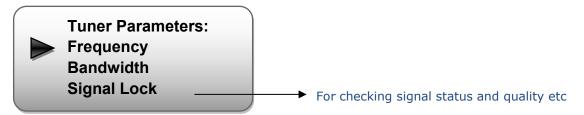
Tuner DVBT/T2:

Press ENTER key to enter '1 Tuner DVBT/T2'(or '2 Tuner DVBT/T2'), it displays as below:



Tuner Parameters:

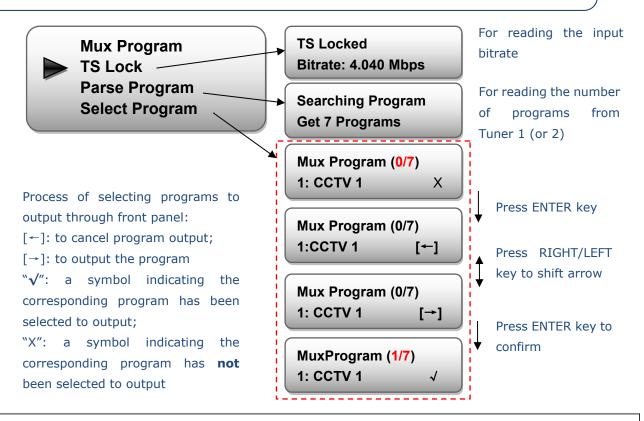
Users can enter this menu to configure the tuner parameters separately to receive the tuner programs.



Mux Program:

Users can parse the Tuner input program list and select program(s) to mux out in this menu.

NOTE: Multiplexing operation can only take effect on condition that the "TS output mode" is set to "Mux" under 'TS Config'. (i.e.: *TS Config* \rightarrow *TS output mode* \rightarrow *Mux*)



'1/7' represents there are all 7 programs in the list and 1 program has been selected to mux out through ASI.

> ASI:

Users can parse ASI input programs and select program(s) to mux out under this menu. The operating method is same with what explained above.



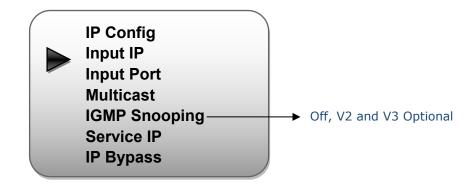
> IP:

Press ENTER key to enter '4 IP', it displays as below:



IP Config:

Users can enter this menu to configure IP parameters according to the IP source to receive the IP programs.



Mux Program:

Users can parse the IP input program list and select programs to mux out in this menu. The operating method is same with what explained above.



3.2.3CI Card

HP3564H supports 2 CI cards (Card A & Card B) to descramble programs from either encrypted RF, ASI or IP. Users can press ENTER key to enter'CI Card' to configure the 2 cards respectively.



Press ENTER key to enter Card A (or Card B): Card A Max Bitrate Input TS Mode Card Error Check Cl card delay Parse Program Descramble Program Rom Version Card Status Descramble Error

> Max Bit rate

CI Max Bitrate options range from 48-108Mbps. Move the triangle to select a value as principle: Actual Input Bitrate≤ Max Bitrate≤CI Max decrypting capacity

Max Bitrate ► 48 Mbps

> Input TS Mode

HP3564H has 4 signal sources: Tuner 1, Tuner 2, ASI, and IP. One CI card can be applied to descramble one channel input signal from the 4 signal sources. 'Skip CI card' means to skip the card which is used for FTA stream.

Input TS Mode	
Skip CI Card	
Tuner 1	
Tuner 2	
ASI	
IP)

> Card Error Check

Users can decide whether to enable or disable the card error check function in this menu.



> CI card delay

Users can set CI card delay under this submenu.

CI card delay <u>0</u>5

> Parse Program

Users can read the quantity of programs parsed from the de-scrambled channel.

Searching Program Get 8 Programs

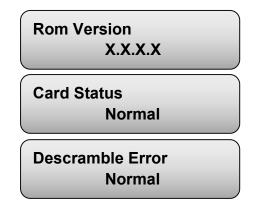
Descramble Program

Users can select program(s) from the searched out programs to descramble. The quantity to be descrambled will depend on the CAM/CI performance you apply to.



Rom Version/Card Status/Descramble Error

Users can read the other info about the CI card in the following menus.



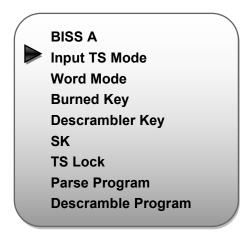
3.2.4 BISS Descrambling

HP3564H IRD also supports BISS to descramble encrypted programs from RF, ASI or IP.

Users can enter 2 BISS descrambling to configure the 2BISS respectively.



Press ENTER key to enter BISS A (or BISS B):



> Input TS Mode

HP3564H has 4 signal sources: Tuner 1-2, ASI, and IP. One BISS can be applied to descramble one channel input signal from the 4 signal sources. 'Skip BISS' means to skip the card which is used for FTA stream.

Input TS Mode ► Skip BISS	
Tuner 1	
Tuner 2	
ASI	
IP	

> Word Mode/Burned Key /Descrambler Key/SK

Users need to input keys to descramble programs as per the BISS scrambling side which usually is DVB-T/T2 modulator.

The descrambling principle is as following chart:

Modulating Side (BISS SCR)	Receiving Side (BISS DESCR)	Digit (0x)
Mode 1+SW Data	Mode 1+Descrambler Key	12
Mode E+ESW Data + Device	Mode E + Descrambler Key + Burned Key	16
Mode E+ESW Data + Input ID	Mode E + Descrambler Key + SK	14

Users can read the real-time bitrate of the corresponding channel.

TS Locked Bitrate: 34.662 Mbps

> Parse Program

Users can read the quantity of programs parsed from the de-scrambled channel.



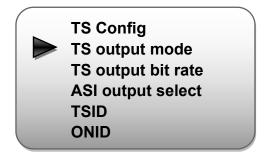
Descramble Program

Users can select program(s) from the searched out programs to descramble.

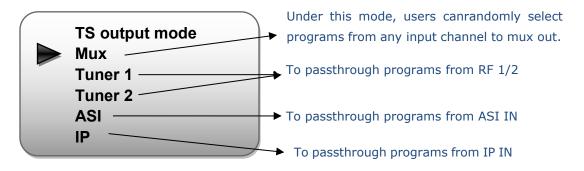


3.2.5TS Config

Users can press ENTER key to enter'TS Config' to configure theparameters of TS output through ASI.



TS output mode: Enter this menu to select a TS output mode.



TS Out Bit rate: Users can set TS output bit rate in this menu.

TS output bit rat <u>0</u>54 Mbps

ASI Output Select: The ASI output is copied from the one of the IP streams (MPTS, SPTS

1-8 or all IP input).

ASI output Select ►MPTS

TS ID:Users can set TS ID in this menu.

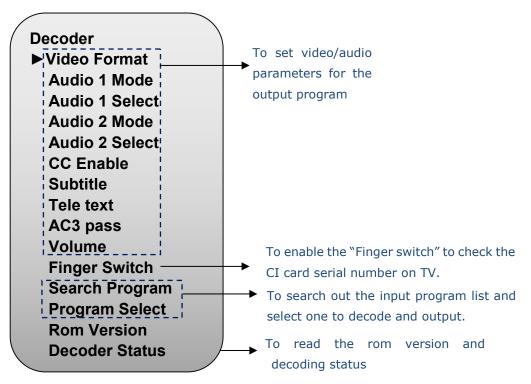
TS ID	
<u>0</u> 0001	

ON ID: Users can set ON ID (original network ID) in this menu.

ON ID	
<u>0</u> 0001	

3.2.6 Decoder

Users can press ENTER key to enter'Decoder' to set the video to be decoded. HP3564H IRD supports one channel program to output at various interfaces at the same time (HDMI/SDI/CVBS/YPbPr).



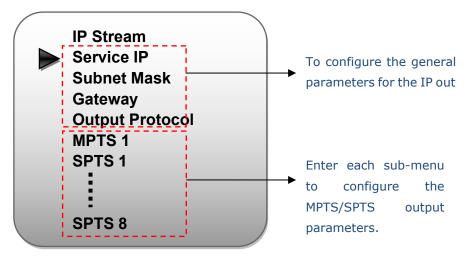
NOTE:

Audio 1: Primary Audio Chanel; Audio 2: Secondary Audio Channel

- HP3564H supports maximum 2 channels ofanalog stereo audios output simultaneously.
- When the program users choose to decode and output has only one audio channel, users need to configure Primary Audio Chanel ('Audio 1 Mode' and 'Audio 1 Select') only.
- 5.1 channel audio can only be resume via HDMI and SDI interfaces. When users choose HDMI ro SDI as the output interface and output 5.1 channel audio, users need to select '5.1 Channels' under 'Audio 1 Mode' and set 'Audio 2 Select' off.

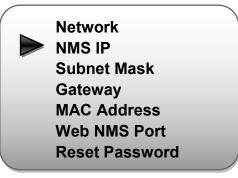
3.2.7 IP Stream

HP3564H supports 1MPTS and 8 SPTS over IP (UDP, RTP/RTSP) output. Users can set the IP out parameters in this menu.



3.2.8 Network

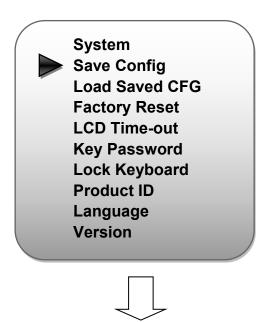
Users can set network parameters in this menu. Enter 'Network' submenus to separately set corresponding parameters.

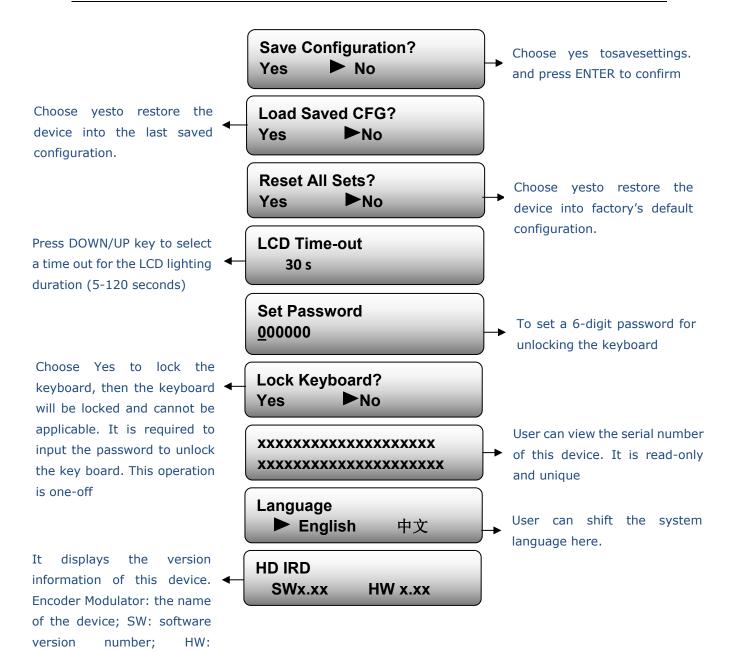




3.2.9 System

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





hardware version number.

Chapter 4 Web-based NMS Management

User not only can use front buttons for setting configuration, but also can control and set the configuration in computer by connecting the device to web NMS Port. User should ensure that the computer's IP address is different from this device IP address; otherwise, it would cause IP conflict.

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 click "LOGIN" to start the device setting.

0	http://192.168.0.136 请求用户名和密码。信息为:"HD IRD"
U	
用户名:	admin
密码:	•••••
	确定取消

Figure-1

4.2 Operation

Summary:

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

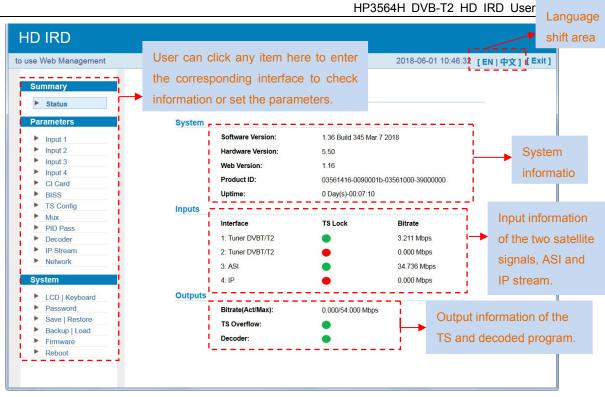


Figure-2

Parameters → Input 1/2 (Tuner 1/Tuner 2 Input):

From the menu on left side of the webpage, clicking "Input 1" or "Input 2", it displays the interface where users can configure the2 RF input parameters separately. (Figure-3)

use Web Management			2018-06-01	10:44:22 [EN 中文] [Exit]
ASI input ASI input U U U U U U U U U U U U U U U U U U U	RF input	1 CONFIGURATION BT/T2 parameters Frequency: Bandwidth: tus Signal Lock: Bitrate: Signal Quality: Signal Strength:	2018-06-01	Configure RF parameters in this area according to signal source to receive programs. Click "Apply" button apply the input data
 LCD Keyboard Password Save Restore Backup Load Firmware Reboot 				start receive signals.

Figure-3

Parameters → Input 3 (ASI Input):

"Input 3" refers to the ASI source which does not need to configure. Users can only read the signal lock status and input bitrate. (Figure-4)

welcome			2017-12-21	[EN 中文][Exit
Summary Status	ASI INPUT			
Parameters	Signal Lock:			
► Input 1				
Input 1	Bitrate:	34.732 Mbps		
Input 3				
 Input 4 				
 Cl Card 				
 BISS 				
► TS Config				
► Mux				
PID Pass				
▶ Decoder				
► IP Stream				
Network				
System				
LCD Keyboard				
Password				
Save Restore				
Backup Load				
Firmware				
Reboot				

Figure-4

Parameters → Input 4 (IP Input):

From the menuon left side of the webpage, clicking"Input 4", it displays the interface where users can configure the IP input parameters. (Figure-5)

HD IRD				
agement			2017-12-21	[EN 中文][Exit]
Summary Status Parameters	IP CONFIGURATION			
Input 1	Input Port:	224.2.2.2		Set IP input address
Input 2		4001		
Input 3	Multicast:			
Input 4	IGMP Snooping:	V2		
CI Card	IP Bypass :	disable	i 🔶	Enable IP de-jitter
► BISS	Service IP :	192.168.2.137		
TS Config	Bitrate:	0.000 Mbps		function
Mux PID Pass				
PID Pass Decoder		Default	Apply	
 IP Stream 				
 Network 				
Network System LCD Keyboard Password Save Restore Backup Load Firmware Reboot				

Figure-5

Parameters → CI Card:

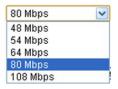
HP3564H supports 2 CI cards (Card A & Card B) to descramble programs from either encrypted RF, ASI or IP. Users can click and enter 'CI Card' to configure the 2 cards respectively. (Figure-6)

ID IRD				
wel		2017-	12-21	[EN 中文] [Exit
Summary Status Parameters Input 1	CI CARD CONFIGURATION	Card Selection /	Area	
 Input 2 Input 2 Input 3 Input 4 C1 Card BISS TS Config Mux PID Pass Decoder IP Stream Network 	→Locked →Program (0/7) (34.733 Mbps] +1: □ CCTV 1 +2: □ CCTV 2 +3: □ CCTV 7 +4: □ CCTV 10 +5: □ CCTV 11 +6: □ CCTV 12 +7: □ CCTV 15	CI Max Bitrate: Input TS Mode: CI Card Error Check: CI card delay(0-20): Rom Version: CI Card Status: Descramble Error:	48 Mbps Tuner 2 5 8.6.5.9 Set config	
LCD Keyboard Password Save Restore Backup Load Firmware Reboot	Program list from the channed selected in 'Input TS Mode'	Get descramble Search program	Set descramble time out: 60 seconds	e

Figure-6

> CI Max Bit rate

CI Max Bitrate options range from 48-108Mbps. Select a value in the pull-down list as principle: Actual Input Bitrate≤ Max Bitrate≤CI Max decrypting capacity.



> Input TS Mode

HP3564H has 4 signal sources: Tuner 1, Tuner 2, ASI, and IP. One CI card can be applied to descramble one channel input signal from the 4 signal sources. 'Skip CI card' means to skip the card which is used for FTA stream.

Skip CI Card	*
Skip CI Card	
Tuner 1	
Tuner 2	
ASI	
IP	

Card Error Check

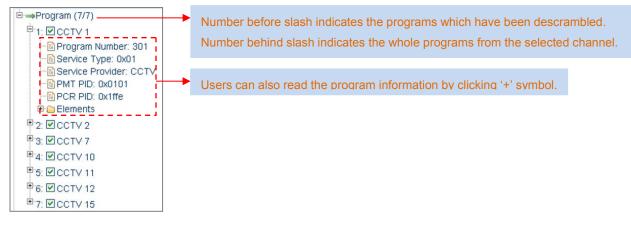
Users can decide whether to enable he card error check function by checking the box.

CI Card Error	Check:	~
---------------	--------	----------

After configuring CI card parameters, click ADDW button to apply the input data and then click Search Drogram button to parse programs from the channel selected in 'Input TS Mode'.

Check the program(s) to be descrambled and click Set descramble button to start 31/43

descrambling the checked program(s). The program quantity to be descrambled will depend on the CAM/CI performance you apply to.



Parameters → BISS:

From the menu on left side of the webpage, clicking "BISS", it displays the interface where users can configure 2 BISS and descramble the input channels. (Figure-8)

Management		2017-	12-21	[EN 中文]
ummary Status arameters Input 1 Input 2 Input 3 Input 4 Cl Card BISS TS Config Mux PID Pass Decoder IP Stream Network ystem LCD Keyboard Save Restore Backup Load Firmware	BISS CONFIGURATION BISS A BISS B ■Lose ■ Locked ■Program (0/7) [34.741 Mbps] 1: □ CCTV 1 2: □ CCTV 2 3: □ CCTV 7 4: □ CCTV 10 5: □ CCTV 11 6: □ CCTV 12 ■ 7: □ CCTV 15	BISS Sele Input TS Mode: Descrambler Key(0x): SK(0x): Word Mode: Burned Key: Default config Get descramble Search program	Ction Area	•

Figure-8

Input TS Mode:

Tuner 2	~
Skip Biss	
Tuner 1	
Tuner 2	
ASI	
IP	

HP3564H has 4 signal sources: Tuner 1-2, ASI, and IP. One BISS tag can be applied to

descramble one channel input signal from the 4 signal sources. 'Skip BISS' means not to involve BISS function and it is used for FTA stream.

Items showing below are working as per the keys or codes set in the BISS scrambling side (DVB-T/T2 modulators).

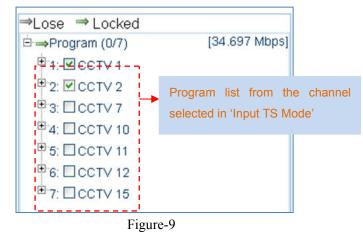
Descrambler Key(0x):		
SK(0x):		
Word Mode:	Mode-E	~
Burned Key:		

Input corresponding items and data to active the BISS descrambling as principles be

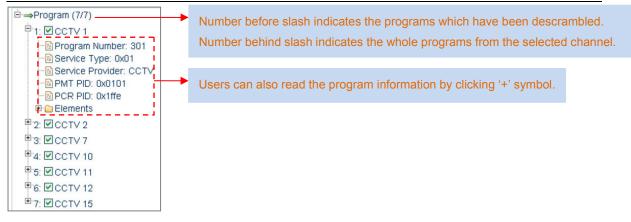
Modulating Side (BISS SCR)	Receiving Side (BISS DESCR)	Digit (0x)
Mode 1+SW Data	Mode 1+Descrambler Key	12
Mode E+ESW Data + Device	Mode E + Descrambler Key + Burned Key	16
Mode E+ESW Data + Input ID	Mode E + Descrambler Key + SK	14

After configuring the above BISS parameters, click Set config button to apply the input data and then click Search 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 9)



Check the program(s) to be descrambled with " \checkmark " and click Set descramble button to start descrambling the checked program(s). The program quantity to be descrambled will depend on the CAM/CI performance you apply to.



Parameters → TS Config:

From the menu on left side of the webpage, clicking "TS Config", it displays the interface where users can select output mode as multiplex out or Tuner/ASI/IP out bypass.. (Figure-10)

welcom					Mux	• 文][Exit]	
Summary Status	TS CONFIGURA	ATION			Funer 1 Funer 2 ASI P		
Parameters				5		_	
Input 1		Ouput TS Mode:	Mux				
Input 2		Output Bitrate:	54.000				
Input 3			54.000	Mbps			
Input 4		ASI Output Select:	MPTS	- \			
CI Card	Stream			N			
► BISS		TS ID:	1	//	-		
TS Config		ON ID:		\ \	MPTS		
Mux		UN ID.	1		MPTS		
PID Pass				<u> </u>	SPTS 1		
Decoder				AA	SPTS 2		
IP Stream					SPTS 3 SPTS 4	-	
Network					SPTS 5		
System					SPTS 6		
LCD Keyboard					SPTS 7 SPTS 8	Output	all IP (MPTS
Password					Ip input	SPTS) #	nrough ASI port
Save Restore					THE WEAK	- 3713) (nough ASI port
Backup Load							
Firmware							
Reboot							1



Output TS Mode:



ASI Output Select: TheTS content output through ASI is copied from the one of the IP streams (MPTS and SPTS 1-8). Users can select one stream from the pull-down list.

After finishing the configuration, click Apply to confirm.

Parameters → Mux:

Click "Mux" and it displays the interface where users can multiplex programs and modify program info. The selected programs will output in TS form through IP and ASI ports. (Figure-11)

welcome to ι	201	7-12-21	[EN 中文]
Status	PROGRAM MUX		
arameters	1		
Input 1		ial 🏓 Ov	
Input 2	⊕ →Tuner DVBS/S2 (prog: 2/23) [36.321 M]	put (prog: 2	2) [3.117/54.000M
Input 3	→Tuner DVBS/S2 (prog: 0) [0.000 M] ♥ CA Filter 1: 0 →ASI (prog: 0) [34.734 M]	CCTV-4	
Input 4	→ASI (prog: 0) [34.734 M] →IP (prog: 0) [0.000 M] ♥PID Remap	CGTN	
CI Card	teres of Endorm Entro Kentep		
BISS	Refresh Input		
TS Config	Refresh Output		
▶ Mux			
PID Pass			
Decoder	<===		<u> </u>
IP Stream	Input Area		Output Area
Network			
System	All Input		
LCD Keyboard	All Output		
Password	<u> </u>		
Save Restore			
Backup Load	Parse program time out: 60 seco		

Figure-11

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

^I CA Filter : To enable/disable the CA filter

✓ PID Remap: To enable/disable the PID remapping

Refresh Input To refresh the input program information

Refresh Output 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.

All Input To select all the input programs

All Output To select all the output programs

Parse program To parse programs time out 60 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 ^a1: CCTV4</sup>, it triggers a dialog box (Figure 12) where users can input new information.

Program Name:	CCTV-4	This device supports 8
SPTS Output:	disable 👻	→ SPTS IP out. Users can
Program Number:	256	
Service Type:	0x01	enable the program
Service Provider:	Harmonic	
PMT PID:	0x0020	output via SPTS here.
PCR PID:	0x0021	
MPEG-4 Video PID:	0x0021	
MPEG-2 Audio PID:	0x0022	1

Figure-12

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

Parameters →PID Pass:

Click "PID Pass", it displays the interface where to add the PIDs which need to pass through.

(Figure-13)

In some occasions, there are some PIDs which won't belong to any program, such as EPG,

NIT tables and so on which user just wants to pass them through the multiplexing module

without changing anything. This is the main purpose of this function.

HD IRD					
welcome to us				2017-12-21	[EN 中文][Exit]
Summary	PID PASS				
Status	<u>. Al 1947 (25</u>				Click this button to
Parameters	Index	Input Channel Input PID(0x)	Output PID(0x)		
	1	input Channel Input Pib(0X)	Output Pib(0X)	Add Del.	add new columns.
 Input 1 Input 2 				Dei.	
Input 3	i i i		Set	Del-All	
 Input 3 Input 4 			1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 -		
Cl Card					
► BISS		•			
TS Config		Operation Area			
► Mux		Operation Area			
PID Pass					
Decoder					
IP Stream					
Network					
System					
LCD Keyboard					
Password					
Save Restore					
Backup Load					
► Firmware					
Reboot					

Figure-13 After finishing the configuration, click Set to confirm.

Parameters → Decoder:

HP3564H supports decode program to output at HDMI/SDI/CVBS/YPbPr. Users can configure the Video/Audio output parameters in this tag. (Figure-14)

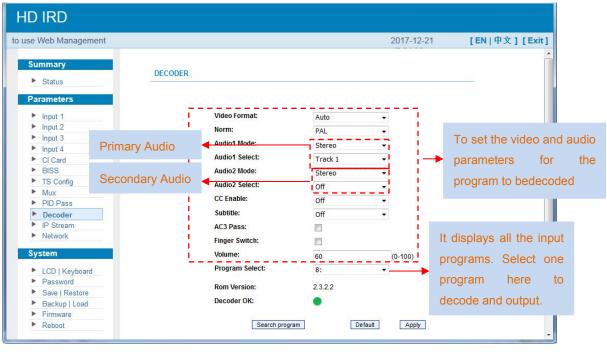


Figure-14

📥 NOTE:

- HP3564H supports maximum 2 channels of analog stereo audios output simultaneously.
- When the program users choose to decode and output has only one audio channel, users need to configure Primary Audio Chanel ('Audio 1 Mode' and 'Audio 1 Select') only.
- 5.1 channel audio can only be resume via HDMI and SDI interfaces. When users choose HDMI ro SDI as the output interface and output 5.1 channel audio, users need to select '5.1 Channels' under 'Audio 1 Mode' and set 'Audio 2 Select' off.

After finishing the configuration, click Apply to confirm.

Parameters → IP Stream:

This unit supports TS output in IP (1 MPTS & 8 SPTS). Click "IP Stream" and it displays the interface where users can configure the MPTS & SPTS out parameters. (Figure-15)

welco					2017-12-21	[EN 中文][Exit]
ummary	IP STREAM					
Status	II STREAM					
arameters	Stream Ena	able.				1
Input 1		et,the following paramete	rs will be no use,	the IP Output	will not work.	
Input 2	Output IP:					E
Input 3		Output data receive addr	ess.The format is	xxx.xxx.xxx	xxx(like 224, 2, 2, 2)	
Input 4		et the Output IP address				
CI Card BISS	data.					
TS Config	Output Port					
Mux		OP protocol port(like 8001), you should use	e Output IP an	d new port to receive	
PID Pass	IP Out	put data(like udp://@224.	2.2.2:8001).			
Decoder	Service IP:					
IP Stream		Output port address.The	format is xxx.xxx	x.xxx.xxx(like	192.168.2.137).	
Network	0.1	4				
ystem	Subnet Mas Genera	al is 255.255.255.0,it is n	nust the same in	a local area ne	etwork.	
LOD LIKe hand						
LCD Keyboard Password	Gateway:	levice is in different net se	amont you must	ant the antow	-	
Save Restore	ii tile u	levice is in unlerent net se	gment,you must	Set the gatew	ay.	
Backup Load						3
Firmware		Service IP:	192.168.2		> Set	data part ID
Reboot			TOPLITOOIL	.13/	- 000	data port IP
		Subnet Mask:	255.255.2			•
		Subnet Mask: Gateway:		55.0	addre	•
			255.255.2	55.0		•
	МРТЅ	Gateway:	255.255.2 192.168.2	55.0		•
	MPTS	Gateway:	255.255.2 192.168.2	55.0		•
		Gateway: Output Protocol:	255.255.2 192.168.2 UDP	255.0 2.0 ▼		255
	MPTS SPTS	Gateway: Output Protocol: Enable Null PKT Filter 1:	255.255.2 192.168.2 UDP Output IP 224.2.2.2	255.0 .0 Port 2001	addre	•
		Gateway: Output Protocol: Enable Null PKT Filter Enable Null PKT Filter	255.255.2 192.168.2 UDP 224.2.2.2 Output IP	55.0 .0 Port 2001 Port	addre Bitrate(Mbps)	255
		Gateway: Output Protocol: Enable Null PKT Filter 1:	255.255.2 192.168.2 UDP 224.2.2.2 Output IP 224.2.2.2	55.0 .0 Port 2001 Port 3001	addre Bitrate(Mbps) 8	255
		Gateway: Output Protocol: Enable Null PKT Filter 1:	255.255.2 192.168.2 UDP 224.2.2.2 Output IP 224.2.2.2 224.2.2.2 224.2.2.2	 	addre Bitrate(Mbps) 8 8	255
		Gateway: Output Protocol: Enable Null PKT Filter 1:	255.255.2 192.168.2 UDP 224.2.2.2 Output IP 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2	55.0 .0 Port 2001 901 3001 3002 3003	addre Bitrate(Mbps) 8 8 8 8	255
		Gateway: Output Protocol: Enable Null PKT Filter 1: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2:	255.255.2 192.168.2 UDP 224.2.2.2 Output IP 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2	55.0 .0 Port 2001 Port 3001 3002 3003 3004	addre Bitrate(Mbps) 8 8 8 8 8	255
		Gateway: Output Protocol:	255.255.2 192.168.2 UDP 224.2.2.2 Output IP 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2	55.0 .0 2001 2001 90rt 3001 3002 3003 3004 3005	addre Bitrate(Mbps) 8 8 8 8 8 8 8	255
		Gateway: Output Protocol: Enable Null PKT Filter 1:	255.255.2 192.168.2 UDP 224.2.2.2 Output IP 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2	55.0 .0 Port 2001 Port 3001 3002 3003 3004 3005 3006	addre Bitrate(Mbps) 8 8 8 8 8 8 8 8 8 8 8	255
		Gateway: Output Protocol: Enable Null PKT Filter 1:	255.255.2 192.168.2 UDP 224.2.2.2 Output IP 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2 224.2.2.2	55.0 .0 2001 2001 90rt 3001 3002 3003 3004 3005	addre Bitrate(Mbps) 8 8 8 8 8 8 8	255

Figure-15

Parameters → Network:

From the menu on left side of the webpage, clicking "Network", it will display the screen as Figure-16where to configure the network parameters for the device.

HD IRD				
Management		2	017-12-21	[EN 中文][Exit]
Summary	NETWORK			
 Status Input 1 Input 2 Input 3 Input 4 Cl Card BISS TS Config Mux PID Pass Decoder IP Stream 	IP Address: The manage address, use this at xxx xxx xxx xxx xxx(like 192.168.0, address to visit the manage web Subnet Mask: General is 255.255.255.0, it is m Gateway: If the device is in different net se Web Manage Port: The default web manage port is i manage web only use IP addres function will work after device rel	 After set the IP address, you ust the same in a local area netwark gment, you must set the gateway 80, if you change it(like 8001), you s and port(liks as http://192.168. 	must use the new work. /. u can visit the	E
Network System LCD Keyboard Password	IP Address: Subnet Mask:	192.168.0.136 255.255.255.0	-> conne	NMS IP address ct the device to PC
 Passwold Save Restore Backup Load Firmware Reboot 	Gateway: Web Manage Port: MAC Address:	192.168.0.1 80 72-12-45-7a-04-24		gement.

Figure-16

System → LCD/Keyboard:

From the menu on left side of the webpage, clicking "LCD/Keyboard", it will display the screen as Figure-17 where to control the device's front panel.

HD IRD				
welcom			2017-12-21	[EN 中文][Exit]
Summary Status Parameters Input 1 Input 2 Input 2 Input 3 Input 4 Cl Card BISS TS Config Mux PID Pass Decoder IP Stream Network System LCD Keyboard Password Save Restore Backup Load Firmware Reboot	LCD KEYBOARD LCD Time-out: Keyboard Password: Lock Keyboard:	30s 000000	Apply	

Figure-17

System → Password:

From the menu on left side of the webpage, clicking "Password", it will display the screen as Figure-18 where to set the login account and password for the web NMS.

welcome to use	2017-12-21	[EN 中文][Exit]
welcome to use Summary Status Parameters Input 1 Input 2 Input 3 Input 4 Cl Card BISS TS Config Mux P PID Pass Decoder IP Stream Network System	PASSWORD Modify the login name and password to make the device safely.If forget the name password,you can reset it by keyboard. The default login name and password is "admin".Also please note the capital character and lowercase character. Current UserName: New UserName: New Dassword: Confirm New Password: Apply	
LCD Keyboard Password Save Restore Backup Load Firmware		

Figure-18

System → Save/Restore:

From the menu on left side of the webpage, clicking "Save/Restore", it will display the screen as Figure-19 where to save or restore your configurations.

	0017.00.01	a mar a da d
to use Web Managerr	2017-12-21	[EN 中文][Exi
Summary		
Summary	SAVE CONFIGURATION	
Status		
Parameters		
Input 1	When you change the parameter, you shoud save configuration ,otherwise the new configuration will lost after reboot.	
 Input 1 Input 2 	comguration will lost alter reboot.	
 Input 2 Input 3 	L	
Input 4	Save config	
 Cl Card 	RESTORE CONFIGURATION	
► BISS		
TS Config		
► Mux	Load latest saved configuration, after click the "Restore" then please click the "Save config"	
PID Pass	button, otherwise the "Restore" parameter will lost after reboot.	
Decoder		
IP Stream		
Network	FACTORY SET	
System		
LCD Keyboard	Set all configuration back to default, after click the "Factory Set" then please click the	
Password	"Save config" button otherwise the default parameter will lost after reboot.	
Save Restore	care coming second and the debuilt purchased with tool after reboot.	
Backup Load		
▶ Firmware	Factory set	
Reboot		

Figure-19

System → Backup/Load:

From the menu on left side of the webpage, clicking "Backup/Load", it will display the screen as Figure-18 where to backup or load your configurations.

HD IRD	
Web Management	2017-12-21 [EN 中文] [Exi
Summary Status	BACKUP CONFIGURATION
Parameters Input 1 Input 2 Input 3	Backup current configuration to the local file,we suggest do this before set the configuration or update firmware.
 Input 4 CI Card 	LOAD CONFIGURATION Backup config
 BISS TS Config Mux PID Pass Decoder IP Stream Network System	Load the backup file to restore your configuration. Warning: 1. New configuration will replace the old one,please backup current configuration before load file.If you use a wrong file,the device may not work. 2. Please do not turn off the power while file loading, otherwise the device will not work.
 LCD Keyboard Password Save Restore Backup Load Firmware Reboot 	_ 浏览】未选择文件。 Losd config

Figure-20

System → Firmware:

From the menu on left side of the webpage, clicking "Firmware", it will display the screen as Figure-19 where to update firmware for the device.

HD IRD		
ent	2017-12-21	[EN 中文][Exit]
Summary Status Parameters	FIRMWARE Warning:	1
Input 1 Input 2 Input 3 Input 4	 Update firmware(software and hardware) to get new function, please choose the right firmware to update. If you use a wrong file, the device may not work. Update will keep a long time, please do not turn off the power, otherwise the device will not work. 	
 Cl Card BISS TS Config 	 After update, you must reboot device manually. 	
MuxPID PassDecoder	Current Software Version: 1.32 Build 345 Nov 7 2017 Current Hardware Version: 5.50 测览 未选择文件。	
IP Stream Network System	Update	
 LCD Keyboard Password Save Restore Backup Load Firmware 		
Reboot		

Figure-21

System → Reboot:

From the menu on left side of the webpage, clicking "Reboot", it will display the screen as Figure-22 where to restart the device manually.

ID IRD		
٧	2017-12-21	[EN 中文] [Exit]
V Summary Status Parameters Input 1 Input 2 Input 3 Input 4 Cl Card BlSS TS Config Mux PID Pass Decoder IP Stream Network System LCD Keyboard	REBOOT Some configuration will work after reboot the device, such as Web Manage Port set, Firmware update. Reboot	[EN 中文] [Exit]
Password Save Restore Backup Load		
Firmware Reboot		

Figure-22

Chapter 5 Troubleshooting

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