

# **User Manual**



## IRD - Satellite or ATSC Decoder to SDI, IP, ASI, Closed Captions

H-IRD-V3

Tuner Input Options: DVS/S2; ATSC; QAM; DVB-T; ISDB-T



## 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 Outline**

### 1.1 Outline

H-IRD-V3 is a Thor decoder which can receive signals from RF (DVB-C, DVB-T/T2, DVB-S/S2/S2X, ATSC-T, ISDBT optional), ASI and IP. After demodulating, de-scrambling, re-multiplexing and decoding, it gives content out through various video/audio interfaces (HDMI, CVBS, 3G-SDI) or ASI or IP.

This IRD is featured with two CAM/CI slots and BISS which supports to descramble encrypted Tuner, ASI or IP signals.

### **1.2 Key Features**

- Demodulator + descrambler +re-mux+ decoder in one box
- 1 Tuner input (DVB-C/T/T2/S/S2/S2X/ATSC-T/ISDB-T optional)
- **2 ASI & 16 IP UDP/RTP input for re-mux**
- **1ch HDMI/CVBS/3G-SDI video out (SDI1 and SDI2 mirrored out)**
- 2ch Audios out
- HD/SD MPEG2, MPEG4 AVC/H.264, HEVC/H.265 and AVS/AVS+ decoding
- MPEG 1 Layer II, LC-AAC, HE-AAC, HE-AAC V2, Dolby Digital/Dolby Digital

Plus decoding and AC3 passthrough

■ IP (1 \*MPTS & 16\* SPTS) output over UDP and RTP/RTSP; 2 ASI mirrored out as

a copy of the IP MTPS

- **Each CAM can decrypt multiple programs from Tuner/ASI/IP**
- **BISS descrambling (Up to 120Mbps)**
- **CC** (EIA608, EIA708) & Teletext (Applicable for SDI port)
- Support maximum 128 PID mapping per input
- LCD/Keyboard and web-based NMS management
- Updates via web



### **1.3 Flow Chart**



### **1.4 Technical Specifications**

Input		1 Tuner option, F type, (DVB-C/T/T2/S/S2/S2X/ATSC-T/ISDB-T)			
		2*ASI input for re-mux, BNC interface			
		16*IP input for re-mux (UDP/RTP), RJ45			
			Input Frequency	60~890 MHz	
		StandardDVB-C/J.83Cable QAMConstellation16/32/64/128	DVB-C/J.83A, J.83C	J.83B	
			Constellation	16/32/64/128/256 QAM       64/256 QAM         1.0~7.0Msps       60~890 MHz         60~890 MHz       600 AM	64/256 QAM
			Symbol rate	1.0~7.0Msps	
			Input Frequency	requency 60~890 MHz	
	Multi-mode tuners	DVB-T	Constellation	QPSK, 16QAM, 64QAM	
Tuner Section	Switchable		Bandwidth	6/7/8 M	
		DVB-T2	Input Frequency	60~890 MHz	
			Constellation	QPSK, 16QAM, 64QAM, 2	56QAM
			Bandwidth	5/ 6/7/8 M	
		ISDB-T	Input Frequency	60~890 MHz	
		1500-1	Constellation	DQPSK, QPSK, 16QAM, 64	4QAM
	Satellite I	DVB-S	Input Frequency	950~2150MHz	
			Symbol rate	0.5~45Msps	

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			Signal Strength	- 6525dBm
			FEC	1/2, 2/3, 3/4, 5/6, 7/8
			Constellation	QPSK
			Input Frequency	950~2150MHz
		DVB-S2	Symbol rate	QPSK/8PSK/16APSK: 0.5~45Msps 32APSK: 0.5~40Msps;
			FEC	QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10
			Constellation	QPSK, 8PSK, 16APSK, 32APSK
			Input Frequency	950~2150MHz
			Symbol rate	QPSK/8PSK/16APSK: 0.5~45Msps
			Symbol rate	8APSK/32APSK: 0.5~40Msps
		DVB-S2X	FEC	QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20
				8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
				8APSK: 5/9-L, 26/45-L
				16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36, 2/3-L, 25/36, 13/18, 7/9, 77/90
				32APSK: 3/4, 4/5, 5/6, 8/9, 2/3-L, 32/45, 11/15, 7/9
			Constellation	QPSK, 8PSK, 8APSK, 16APSK, 32APSK
			Input Frequency	54~858MHz
		ATSC	Bandwidth	6M
			Constellation	8VSB
Descrambling		CAM/CI Quantity	2	
		BISS Mode	Mode 1, Mode E (up to 120Mbps)	

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	IP (1*MPTS & 16*SP	ΓS) out ove	r UDP, RTP/RTSP.	
	1000Base-T Ethernet interface (unicast / multicast)			
	2×ASI mirrored out, BNC interface			
			Interface: 1* CVBS/HDMI/3G-SDI (SDI1 and SDI2 mirrored out)	
		Video	Decode: MPEG-2, MPEG4 AVC/H.264, HEVC/H.265 and AVS/AVS+	
Output			Resolution:1920×1080_60p, 1920×1080_60i, 1920×1080_50p; 1920×1080_50i; 1280×720_60P, 1280×720_50P; 480i, 576i	
	Decode Output		Chroma: 4:2:0	
			Interface: HDMI, SDI, DB15 to (XRL, RCA, AES, S/PDIF)	
			Number of channels: 2	
		Audio	Decode: MPEG 1 Layer II, LC-AAC, HE- AAC, HE-AAC V2, Dolby Digital/ Dolby Digital Plus	
			Audio Output Mode: Left, Right, Stereo audio	
	Local interface		LCD + control buttons	
System	Remote management		Web Management	
System -	Language		English	
	Upgrade		USB, web management	
	Dimension		482*300*44.5mm (W×L×H)	
	Approx weight		3.5kg	
Miscellaneous	Environment		0~45°C(work); -20~80°C (Storage)	
	Power requirements		100~240VAC, 50/60Hz	
	Power consumption		20W	



### **Order Guide**

Please specify both **Tuner Input** option when you place order:

	H-IRD-V3S	1*DVB-S/S2/S2X tuner
	H-IRD-V3-ISDBT	1*DVB-ISDB-T tuner
Tuner Input	H-IRD-V3A	1*ATSC-T tuner
	H-IRD-V3Q	1*DVB QAM
	H-IRD-V3-DVBT	1*DVB-T

### **1.5 Appearance and Description**

### **Front Panel Illustration:**



1	LCD display for device control and configuration
2	Indicator Area (to indicate locking status of tuner, ASI and IP input; Decoder: to indicate the decoding status)
3	Up/Down/Left/Right Buttons
J	Enter Key Menu Key Lock Key
4	CAMs /Smart card slots A & B

#### **Rear Panel Illustration:**



1	RF signal input
2	NMS port for management
3	Data port for IP in and out
4	ASI input Port for re-mux
5	ASI mirrored output ports
6	Analog audio output interface
7	SDI video/audio output interfaces, SDI2 out as mirror of SDI1
8	Composite video output interface (CVBS)
9	USB upgrade port
10	HDMI video/audio output interface
11	Power switch/Fuse/Socket/ Grounding Wire

## **Chapter 2 Installation Guide**

### 2.1 In the Box

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Make sure that everything is in the box prior to installation

- H-IRD-V3
- HDMI Cable
- CVBS Cable
- SDI Cable

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### H-IRD-V3

- Audio adapt cables
- Power Cord
- Ground Cable

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

### **2.2 Installation Preparation**

The main content of this chapter includes:

- Checking the device for missing parts or damage during transport
- Preparing 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
Spacing	During install make sure the area has plenty of space and ventilation, especially if installed in rack
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



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

- 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 are well 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<sup>2</sup>.

### 2.2.4 Frame Grounding

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

### 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  $1\Omega$ .

**Caution:** 

Before connecting power cord to H-IRD-V3, 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 H-IRD-V3 Cables Illustration:

• IP Input/output Cable Illustration:



• Tuner Cable Illustration:





• ASI Input/output Cable Illustration:



• Video & Audio output Cable Illustration:



**CVBS** Cable



**HDMI** Cable



**SDI** Cable

## • Audio adapt cables Illustration:

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## **Chapter 3 Front Panel Operation**

The front panel of the H-IRD-V3 is the interface used to conveniently operate and manage the device without connecting to a PC; 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.

### **3.1 General Setting**

Switch on the device and after a few seconds' initialization, it presents start-up pictures as

below:	Updating config	HD IRD
	Please wait	192.168.0.136

• **HD IRD**: Device's name

• 192.168.0.136 indicates the current NMS IP address.

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 7 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:

### 1 Input

H-IRD-V3 can support 1 tuner input, 2 ASI inputs and 16 IP stream inputs. 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 DVBS/S2:

Press ENTER key to enter '1 Tuner DVB-S2' (or '2 Tuner DVB-S2'), it displays as below:



**Tuner Parameters:** 

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



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### IP input parameters:



### 2 Mux

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

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

(	Mux:
	2.1 Mux Tuner 1
-	2.2 Mux Tuner 2
	2.3 Mux ASI 1

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### 3 Descrambling

H-IRD-V3 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):





#### > 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





#### > Error Check

**Clock Mode** 

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





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### 4 Decoder

Press ENTER key to enter 'Decoder' to set the video to be decoded. H-IRD-V3 IRD supports one channel program to output at various interfaces at the same time (HDMI/SDI/CVBS).



**Video format:** 1920×1080\_60p, 1920×1080\_60i, 1920×1080\_50p; 1920×1080\_50i; 1280×720\_60P, 1280×720\_50P; 480i, 576i



Audio 1/2 Mode: Left/Right/Stereo/Mux

CC 608/CC 708/AFD/TeletextLine: Disable/4-15 for optional

### **5** Output

H-IRD-V3 supports 1MPTS and 16 SPTS over IP (UDP, RTP/RTSP) output and 1 ASI out.



### 6 Network

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Users can set network parameters in this menu. Enter 'Network' sub-menus to separately set corresponding parameters.



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### 7 System

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





### **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
Login :	admin
Pass :	•••••
	Log in Sign in





### **4.2 Operation**

#### **Summary:**

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

D IRD Welk				
summary ▶ Status	Status			
Parameters	System Information			
▶ Setting		Software Version:	15.20.88 Build 272.00 Nov 4 2021	
Decoder		Hardware Version:	20.02.06	
▶ Output		Web Version:	1.0.3	
System		System Version:	01.20.01	
Network		Product ID:	0d902a00-00000010-00000000-00000000	
Password		Uptime:	2 Day-21:08:41	
Configuration		Temperature:	50.32 Degree Celsius	
Date   Time		VccInt:	1026.12 mV	
▶ Log		VccAux:	1800.29 mV	
▶ Reboot		VccBRam:	1026.12 mV	
+				!
User can click ar	y item here to ente	er		System information
	g internació to onoc			
information or set	the parameters.			



#### Parameters → Tuner:

Clicking "Tuner", it displays the TS Lock status, Signal Status and Frequency parameters information of the Tuner inputs. Click "Edit" button to get a pop-up window where users can set the wanted frequency parameters to lock the corresponding signal. DVB-C/T/T2/ISDB-T or DVB-S2 tuner input is up to users' order option.

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#	Tuner	TS Lock	Signa			Param	Action
							Edit
		CH 1 Config				× IHz DOD MHz	
						05	Edit
		Fr	equency:	3840.000	MHz		
		LNB Fr	equency:	5150	MHz		
		Syr	mbolrate:	27500	Ksps		
		LNE	3 Voltage:	13 V	-		
			22K:	OFF	•		
			Satellite.	1	(1~4)	_	
							📕 Спск Арріу Биї

Figure-4

### Parameters → Setting:

Click "Setting" for Multiplexing, CI descrambling and BISS descrambling operation.

#### Mux:

N			
mmary	Setting		
Status			
rameters			
Tuner	Mux CI Card BISS		
Setting			
Decoder	+ / X m		
Output			
store	→Lose → Locked	-Normal - Overflow	
stem	→1: Tuner 1	[0.0/0.0M]	[18.5/80.0M
Network	======================================	[0.0/0.0M] CA Hiter CAM-A (prog. 0)	[0.0M
Password	4-ASI 2	IO 0/0 0MI I PID Remap	[0.0M]
Configuration	⇒5: IP 224.2.2.2:1001	[0.0/0.0M] Patrash lagut	10.000
irmware	→6: IP_224.2.2.2:1002	[0.0/0.0M]	
Date   Time	→7: IP_224.2.2.2:1003	[0.0/0.0M] Refresh Output	
-og		[0.0/0.0M] ===> CAM-A	
Reboot	→9: IP_224.2.2.2:1005	[0.0/0.0M]	
		[0.0/0.0M] ===> CAM-8	
	⇒11: IP_224.2.2.2:1007	[0.0/0.0M] ===> BISS	
	12. IP_224.2.2.1008	Elements	
		10.0/0.0M1 ===> Other == 2: = CCTV 17 <=ASI 1 [258]	
	⇒15 IP 224 2 2 1010	[0.0/0.0M] <=== □ →Other (prog; 2)	[8.9M]
	→16: IP 224.2.2.2:1012	[0.0/0.0M]	
	⇒17: IP_224.2.2.2:1013		
	→18: IP_224.2.2.2:1014 INPUL ATEC	(0.0/0.0M) W2 CCTV 15 <= ASI 1 [2 UU	tput Area
	→19: IP_224.2.2.2:1015	[0.0/0.0M] All loout	
		[0.0/0.0M]	
		All Output	
	Press seconds	فتتعجبنا	
	Parse program time out: 60 seconds		





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

<sup>I</sup> ⊂A Filter : To enable/disable the CA filter

<sup>IV</sup> 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 the wanted input program(s) firstly and click this button to transfer the selected program(s) to the CAM-A for CI-descrambling setting.

**EXAMPB** Select the wanted input program(s) firstly and click this button to transfer the selected program(s) to the CAM-B for CI-descrambling setting.

Select the wanted input program(s) firstly and click this button to transfer the selected program(s) to BISS channel for BISS descrambling setting.

Select the wanted input program(s) firstly and click this button to transfer the selected program(s) to output.

Cancel the multiplexed programs from the output area after your program selection.

All Input

To select all the input programs

All Output To select all the output programs

Parse program To parse programs time out for seconds time limitation of parsing input programs

\*All the programs in CAM-A, CAM-B, BISS and Other will be in MPTS out.

In Setting-Mux Web page, click "+" button to add the input ip streams.

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nary					
tus	Setting				
neters					
ner	Input IE	Stream Config		[ close ]	
tting		en ean eenig		1 01000 1	
coder	+ / ×				
tput	>Lose Locke	Unicast:			
m		IP Address:	224.2.2.2		
work	==>2. Tuner 2	Port:	1001		
sword	as as a si a si a si a si a si a si a s	Step:	1		
figuration	→5: IP_224.2.2	End Port:			
nware	=⇒6: IP_224.2.2	IGMP Snooning	Off		
e   Time		Brotocol:	LIDP		
	9 IP 224 2 2	FIGUCOI.	UDP		
1000	+10. IP_224.2		RTP		
	→11: IP_224.2			Add Close 0	
	======================================		111 1071 1041		

Figure-6

### > Program Modification:

The multiplexed program information can be modified by clicking the program in the 'output'

area. For example, when clicking <sup>[]</sup>1: <sup>[]</sup> CCTV 2 <=ASI 1 [257], it triggers a dialog box (Figure 7) where users can input new information.

Program From Input:	ASI 1 [257]		
Service Name:	CCTV 2		
Program Number:	4001		
Logic Channel Number:	1		
Service Type:	0x01		
Service Provider:	CCTV		
Biss Descarmble:	Biss key 1	•	
PMT Descriptor Tag:	Dx00		
PMT Descriptor Data:		(Hex)	
PMT PID:	0x0020		
PCR PID:	0x0021		
MPEG-2 Video PID:	0x0022		
MPEG-2 Audio PID:	0x0023		

#### Figure-7

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

\*When users add the BISS keys in the BISS web page, please select the corresponding BISS key for Biss Descramble in the pop-up window to descramble the corresponding program.

#### CI Card:

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H-IRD-V3 supports 2 CI cards (Card A & Card B) to descramble programs from either encrypted Tuners, ASI or IP. Users can click and enter 'CI Card' to configure the 2 cards respectively. (Figure-8)

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HD IRD	Setting				
Parameters  Tuner  Setting  Decoder  Output		Mux CI Card	BISS	CI Card B:	
System  Network Password Configuration Firmware Date   Time Log Reboot		CI Max Bitrate: CI Clock Mode: CI Card Error Check: CI Card Status: Descramble Status: Program Counts: TS Status: TS Overflow:	48 Mbps User Defined:	CI Max Bitrate: CI Clock Mode: CI Card Error Check: CI Card Status: Descramble Status: Program Counts: TS Status: TS Status:	48 Mbps User Defined: Mode 1
			-	Debug Default	Apply

#### Figure-8

#### > 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.

80 Mbps	~
48 Mbps	
54 Mbps	
64 Mbps	
80 Mbps	
108 Mbps	

CI Max Bitrate can be defined according to the actual CAM conditions of the users after

enabling User Defined:

#### CI Clock Mode

Usually, Mode 1 is working well in most of the CI-descrambling cases. If you want to change it to Mode 2, please contact our technician for setting guide.

#### CI Card Error Check

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

CI Card Error Check: 🛛 🔽



After configuring CI card parameters, click Apply button to apply the input data to start descrambling the selected program(s). The program quantity to be descrambled will depend on the CAM/CI performance you apply to.

#### **BISS:**

Clicking "BISS", it displays the interface where users can add the BISS keys and descramble the selected programs in the MUX Web page. (Figure-9)

ID IRD								
1								
Summary	Setting							
Status								
Turner		Mux CI	Card BISS					
Setting								
<ul> <li>Decoder</li> </ul>								
▶ Output								
System		Index	Alias	BISS Mode	Descrambler Key(0x)	SK(0x)	Burned Key	+
Network		1	Biss key 1	mode 1 💌	012345667890	000000000000000000000000000000000000000		â
Password		2	Biss key 2	mode E 💌	0123456789000000	01234567890000		
Configuration								
Firmware								
Date   Time							Set	Del-All
▶ Log								

Figure-9

Items showing above are working as per the keys or codes set in the BISS scrambling side (the corresponding modulators).

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

Tel: (800) 521-8467



\*After adding the above BISS keys, users need to come back to the Mux Web page and click the selected program name in BISS channel to get a pop-up window where the right BISS key will be selected and applied to descramble the corresponding program.

#### **Parameters** → **Decoder:**

H-IRD-V3 supports to decode one TV program to output via HDMI/SDI/CVBS. Users can configure the 1 Video/Audio output parameters in this Web page. Audio 2 will work only when your ordered version supports 2 audio decoding. (Figure-10)

HD IRD				
Web Management				2
Summary Decode	۶r			
▶ Status				-
Parameters	Video Format:	1080P@50	•	it displays all the input programs.
Tuner     Setting	Program Select:	CCTV 15	-	Select one program here to decode
► Decoder	Volume:	100	(0-100)	
Output	Audio1 Mode:	Stereo	•	and output
System	Audio1 Select:	track 1 - chi	•	
Network	Audio2 Mode:	Stereo	*	
Password	Audio2 Select:	track 1 - chi	•	
Configuration	CC 608:	Disable	•	
Date   Time	CC 708:	Disable	-	
► Log	AFD:	Disable	•	
▶ Reboot	TeletextLine:	Disable	•	
	AC3 Pass:	Disable	•	
	Rom Version:	00.02.02.00		
	Decoder Version:	08.09		
	Decoder Status:	•		
				Update Decoder from USB Default Apply



\*Some professional parameters, such as AFD, please contact our technician for setting guide.

#### **Parameters** → **Output:**

This IRD supports TS output in IP (1 MPTS & 16 SPTS) and in ASI out. Click "Output" and it displays the interface where users can configure the MPTS & SPTS out parameters. (Figure-11)

## TH�R

Output											
General											
	Character E MPTS Outp	Encoding: ut Mode:	NORMAL Mux	•	MPTS Output ASI Output M	Bitra ode:	ete: 80 Packe	Mb t Mode	•		
IP Output											
		Output Enable	IP Address	Port	Protoco	a	Null_PKT Filter	Program		Output Bitrate	Output Bitrate Status
	MPTS	2	224.2.2.2	12010	UDP	•					•
	SPTS-1		224.2.2.2	3002	UDP	•		NULL	20		•
	SPTS-2		224.2.2.2	3003	UDP	Ψ		NULL	20		
	SPTS-3		224.2.2.2	3004	UDP	Ŧ		NULL	20		
	SPTS-4		224.2.2.2	3005	UDP	Ŧ		NULL .	20		•
	SPTS-5		224.2.2.2	3006	UDP	w		NULL .	20		•
	SPTS-6		224.2.2.2	3007	UDP	w		NULL .	20		•
	SPTS-7		224.2.2.2	3008	UDP	Ψ		NULL .	20		•
	SPTS-8		224.2.2.2	3009	UDP	Ŧ		NULL	20		•
	SPTS-9		224 2 2 2	3010	UDP	Ŧ		NULL -	20		

### Figure-11

In this page, user can enable or disable the corresponding IP output, modify the output address and port, modify the output protocol, define which SPTS is for which program, and set the MPTS output bitrate in this page.

Character Encoding: MPTS Output Mode:	NORMAL GBK UCS-2 ISO-8859-5 UTF-8	MPTS Output Bitrate     ASI Output Mode:	Packet Mode	Mbps
Character Encoding: MPTS Output Mode:	NORMAL Mux Tuner 1	MPTS Output Bitrate     ASI Output Mode:	80 Packet Mode	Mbps
	Character Encoding: MPTS Output Mode: Character Encoding: MPTS Output Mode:	Character Encoding: NORMAL MPTS Output Mode: GBK UCS-2 ISO-8859-5 UTF-8 Character Encoding: NORMAL MPTS Output Mode: Mux Tuner 1	Character Encoding: NORMAL MPTS Output Bitrate MPTS Output Mode: GBK UCS-2 ISO-8859-5 UTF-8 Character Encoding: NORMAL MPTS Output Bitrate: MPTS Output Mode: Mux ASI Output Bitrate: MPTS Output Mode: Mux ASI Output Mode:	Character Encoding: NORMAL MPTS Output Bitrate: 80 MPTS Output Mode: GBK UCS-2 ISO-8859-5 UTF-8 Character Encoding: NORMAL MPTS Output Bitrate: 80 MPTS Output Mode: Mux ASI Output Bitrate: 80 ASI Output Mode: Packet Mode

Output						
General						
	Character Encoding:	NORMAL	•	MPTS Output Bitrate:	80	Mbps
	MPTS Output Mode:	Mux	•	ASI Output Mode:	Packet Mode Byte Mode Packet Mode	

\*Character Encoding: users can choose the option as per their language environments.

**\*MPTS output mode:** Mux, Tuner 1 and Tuner 2. Tuner 1 and Tuner 2 here means the tuner signal passthrough.

\*ASI Output Mode: Packet Mode and Byte Mode, usually it is Packet Mode by default.

Byte mode is used in some special case where only Byte mode can enable the TS locking at the receiver side. Please contact our technician for setting guide when you need to use it.

After finishing the configuration, click Apply to confirm.

#### System → Network:

TH��R

From the menu on left side of the webpage, clicking "Network", it will display the screen as Figure-12 where to configure the network parameters for the device.

HD IRD			
Welcome to use			
Summary ▶ Status	Network		
Parameters Tuner	NMS		Set NMS IP address to connect
<ul><li>Setting</li><li>Decoder</li></ul>	IP Address: Subnet Mask:	192.168.0.136	the device to PC for
► Output	Gateway: Web Manage Port:	192.168.0.1 80	
Network     Password	MAC Address:	2a:b4:52:1a:04:13	management.
Configuration Firmware Date   Time			Apply
► Log	DATA1		
- 10000	IP Address: Subnet Mask: Gateway:	192.168.2.136 255.255.255.0 192.168.2.1	
	MAC Address:	2a.c4:52:1a:04:13	Apply



#### Figure-12

#### System → Password:

From the menu on left side of the webpage, clicking "Password", it will display the screen as Figure-13 where to set the login account and password for the web NMS.

Welcome to ι	
tatus	Password
ameters uner etting	Modify the login name and password to make the device safely. If forget the name or password you can reset it by keyboard. The default login name and password is "admin" Also please note the capital character and lowercase character.
ecoder utput etwork assword onfiguration mmware	Current UserHame: admin Current Password: New UserHame: New Password: Confirm New Password:
og eboot	Apply

Figure-13

### System → Configuration:

From the menu on left side of the webpage, clicking "Configuration", it will display the screen as Figure-14 where to save, restore, make factory set, backup and load your configurations.

ID IRD		
ement		
Summary	Configuration	
Parameters		
▶ Tuper	Save Restore Factory Set Backup Load	
▶ Setting		
▶ Decoder		
▶ Output	When you change the parameter you shoud save configuration ,otherwise the new configuration will lost after reboot.	
System		
▶ Network		
Password		Save config
► Configuration		
Firmware		
► Date   Time		
► Log		
Reboot		

# TH®R

HD IRD		
to use Web Management		
Summary		
► Status	guration	
Parameters  Tuner  Setting	Save Restore Factory Set Backup Load	
Decoder     Output	Load latest saved configuration, after click the "Restore" then please click the "Save config" button, otherwise the "Restore" parameter will lost after reboot.	
Network     Password     Configuration		Restore
Firmware Date   Time Log Deteor		
r Rebool		
HD IRD		
jement		

ement		
Summary	Configuration	
▶ Status	owngarator	
Parameters		
▶ Tuner	Save Restore Factory Set Backup Load	
► Setting	1	
► Decoder		
Output	Set all configuration back to default, after click the "Factory Set" then please click the "Save config" button, otherwise the default parameter will lost after reboot.	
System		
Network		
Password		Factory set
► Configuration		
Firmware		
Date   Time		
► Log		
Reboot		

mary	Configuration	
atus	Comguration	
meters		
meters	Source Bestare Eastern Sat Backup Land	
ner	save restore factory set backup Load	
tting		
coder		
iiput	Backup current configuration to the local file, we suggest do this before set the configuration or update firmware.	
em		
twork		Back
ssword		Court
onfiguration		
mware		
ite   Time		
g		
IRD		
RD		
RD		
RD ment		
RD ment	Configuration	
RD ment us	Configuration	
RD ment nary nus neters	Configuration	
RD ment hary hus heters	Configuration	
RD ment nary neters eef	Configuration Save Restore Factory Set Backup Load	
RD ment tus neters net net coder	Configuration Save Restore Factory Set Backup Load	
RD ment hary refer ing coder put	Configuration Save Restore Factory Set Backup Load Load the backup file to restore your configuration.	
RD ment hary us teters er ing oder put	Configuration Save Restore Factory Set Backup Load Load the backup file to restore your configuration. Varning:	
RD ment hary hose er ing icder put m	Configuration           Save         Restore         Factory Set         Backup         Load           Load the backup file to restore your configuration.         Load         Varing:         . 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.	
RD ment hary refer ing coder put motics	Configuration           Save         Restore         Factory Set         Backup         Load           Load the backup file to restore your configuration.         Varning:         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 of the power while file loading, otherwise the device will not work.	
RD ment hary heters er ing oder put m work ssord	Configuration          Save       Restore       Factory Set       Backup       Load         Load the backup file to restore your configuration.       Varming:       1. Ker 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.	
RD ment us neters er ing oder put m work sword figuration	Configuration           Save         Restore         Factory Set         Backup         Load           Load the backup file to restore your configuration.         Load         Varing:         .           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.	
RD ment hary refer ing coder put mnt work swork sword	Configuration           Save         Restore         Factory Set         Backup         Load           Load the backup file to restore your configuration.         Varing: <ul> <li>New configuration will replace the oid one, please backup current configuration before load file. If you use a wrong file, the device may not work.</li> <li>Please do not turn off the power while file loading, otherwise the device will not work.</li> </ul> Erowse              Load	
RD ment hary us er er ing coder put m work sword httguration mmare e   Time	Save       Restore       Factory Set       Backup       Load         Load the backup file to restore your configuration.       Warming:       1. Ner configuration will replace the old one please backup current configuration before load file. If you use a wrong file, the device may not work.         It may be configuration will replace the old one please backup current configuration before load file. If you use a wrong file, the device may not work.         It may be configuration will replace the old one, please backup current configuration before load file. If you use a wrong file, the device may not work.         It may be configuration will replace the old one, please backup current configuration before load file. If you use a wrong file, the device may not work.         It may be configuration will replace the old one, please backup current configuration before load file. If you use a wrong file, the device may not work.         It may be configuration will replace the old one, please backup current configuration before load file. If you use a wrong file, the device may not work.         It may be configuration will replace the old one, please backup current configuration before load file. If you use a wrong file, the device may not work.         It may be configuration will replace the old one, please backup current configuration work.         It may be configuration will replace the old one, please backup current configuration work.         It may be configuration will replace the old one, please backup current configuration work.	
RD ment hary tvs heters er hing oder put m work sword hing ration higuration	Configuration           Save         Restore         Factory Set         Backup         Load           Load the backup file to restore your configuration.         Varing:         .	



Figure-14

#### System → Firmware:

From the menu on left side of the webpage, clicking "Firmware", it will display the screen

as Fig	gure-15	where to	update	firmware	for	the	device.
--------	---------	----------	--------	----------	-----	-----	---------

HD IRD			
use Web Management			
Summary			
► Status			
Parameters			
► Tuner	Warning:		
► Setting	2. Upgrade will keep a long time,please do no	to get new function, please choose the right infinware to upgrade. If you use a wrong file, the device may not work. In turn off the power, otherwise the device will not work.	
Output	3. After upgrade, you must reboot device man	nually.	
Svetem			
System			
Password	Current Software Version:	15.20.88 Build 272.00 Nov 4 2021	
► Configuration	Current Hardware Version:	20.02.06	
► Firmware	Select file:	Browse Load	
► Reboot			Upgrade
HD IRD			
Welcome			
Summary Date   T	lime		
▶ Status			
Parameters			
▶ Tuner	-	1970-01-03 21:24:01	
▶ Setting	Timezone:	. (GNUT) Greenwich wear Time, Dublin, Edinburgh -	
Decoder      Output	NTP Server 1:		
Sustam	NTP Server 2: NTD Cerver 3:		
System	NTP Server A		
Blobuork			
Password	NTP Server 5:		
Password     Configuration	NTP Server 5:	:	
Password Configuration Firmware	NTP Server 5:	SetTimesone SetNTP Up	date from browser
Password Configuration Firmware Date   Time	NTP Server 5:	Set Timezone Set 17P Up	date from browser
reasonat     Password     Configuration     Firmware     Date   Time     Log     Reboot	NTP Server 5:	Set Timezone Set NTP Upo	date from browser
	NTP Server 5:	Set Timecone Set NTP Upo	dale from browser



### System $\rightarrow$ Log:

The Kernel and System log here are for the R&D debugging reference.

## TH®R

HD IRD	
use Web Management	
use Web Management Summary Status Parameters Tuner Setting Decoder Output System Network Password Confyuration Firmware Date Time Log Reboot	Log Type:         Kimel Log         Aub Refresh.         Export           0.0000001         Booting Linux on physical CPU 000         0         00000001         0         00000001         File State S
	0.000000] inode-cache hash table entries: 16384 (order: 4, 65536 bytes)     0.000000] Memory: 228368K/262144K available (3777K kernel code, 219K nvdata, 1484K rodata, 192K init, 291K bss, 17392K reserved, 16384K cma-reserved, 0K highmem)

Figure-17

### System → Reboot:

Users can reboot the CPU of the device in this page, and it is not same as manually rebooting.

HD IRD		
nt		
Summary	Reboot	
Parameters		
Tuner     Setting	Some configuration will work after reboot the device, such as Web Manage Port set, Firmware update.	
Decoder     Output		Reboot
System		
Network     Password     Configuration     Firmware     Date   Time     Log     Reboot		



## THOR

## **Chapter 5 Troubleshooting**

Thor H-IRD-V3 quality assurance system has been approved by CQC organization. For guarantee the products' quality, reliability and stability. All THOR products have been passed the testing and inspection before ship out factory. The testing and inspection scheme already covers all the Optical, Electronic and Mechanical criteria which have been published by THOR. To prevent potential hazard, please strictly follow the operation conditions.

#### **Prevention Measure**

- Installing the device which has 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 spilled into device.
- Any stuff that can cause circuit short
- Device in damp environment
- Device suffered from physical damage
- Longtime idle.
- After switching on and restoring to factory setting, device still cannot work properly.
- Maintenance needed

#### For Support Please contact Thor directly 1800-521-8467 ext 2 Support@thorfiber.com

Tel: (800) 521-8467