CMP201A

Media Platform

User Guide



V1. 4-W

Revision History

Date	Version	Description	Author
28/4/2023	1.0	First Draft	RF
27/9/2023	1.1	Add Module CD2SDI-00	JY
30/1/2024	1.2	Update Safety Instructions	RF
20/3/2024	1.3	Fix some editing errors and format errors	JS
23/3/2024	1.4	Update the information of Appendix A-Power Consumption	SW

Anger	The DANGER symbol calls your attention to a situation that, if ignored, may cause physical harm to the user.
	The CAUTION symbol calls your attention to a situation that, if ignored, may cause damage to Our product.
	The NOTE symbol calls your attention to important information.
ΞΨ̈́Ξ TIP	The TIP symbol calls your attention to additional information that, if followed, can make procedures more efficient.
Red Arrow	The Red Arrow symbols point to import details mention the context above or below an image.
• Blue Arrow	The Blue Arrow symbol indicates the motion path of an item in an operation step.
Thick Arrow	The thick Arrow symbol calls your attention to a series of operation steps mentioned in the context.

This guide contains some symbols to call your attention.

This guide also contains the following text conventions.

Bold ItalicThe bold Italic text indicates a button to click, an item in the drop-down menu to
select, or a certain item in the UI.

Safety Instructions

- Read these instructions
- Keep these instructions
- Follow all instructions
- Heed all warnings
- Do not use this unit near water.
- Only use a damp cloth to clean chassis
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions
- This unit is grounded through the power cord grounding conductor. To avoid electrocution, do not remove the power cord before the outlet is switched off or unplugged. If the plug does not fit into your outlet, consult an electrician for replacement of the outlet.
- Route power cords and other cables so that they are not likely to be damaged.
- Only use attachments/accessories specified by the manufacturer.
- Do not wear hand jewelry or watch when troubleshooting high current circuits.
- Do not work on the system during periods of lightning.
- Refer all servicing to qualified service personnel. Servicing is required when this unit has been damaged in any way.
- **Damage Requiring Service**: Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power-supply cord or plug is damaged.
 - If liquid has been spilled, or objects have fallen into the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of the controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - If the product has been damaged in any way.

- **Replacement Parts**: When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer. Unauthorized part substitutions made may result in fire, electric shock or other hazards.
- While user is upgrading the module/chassis, the devices could not be power off. Meanwhile, user's PC should have stable network connect to CMP while upgrading until it finishes. If the module could not finish the upgrade due to incidental interruption, there is a risk that the devices would be damaged and probably would be needed to send back to us for repairing.

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1 Chassis Overview

1.1 Front Panel

CMP201A is a new generation of compact media platform which focuses on cost-effective commercial TV market and traditional DTV market.

With powerful embedded Gigabit switch, optional commercial/broadcast level encoder modules and multi-mode receiver and modulator modules, it has been preconfigured to meet all the major video delivery requirements of signal receiving, descrambling, encoding, multiplexing, modulation and IP processing depending on a variety of models.

Due to its compact design, powerful functions, super practical price and low operational cost, it's a perfect choice for commercial video delivery applications for hotel, campus, hospital, MDU and more kinds of cable TV and IPTV systems, where massive programs are required to be processed, saving you more space and expense.



- 1. Cooling air intake
- 2. Status and Power Indicators and Reset button
- 3. RJ45 ports for remote network management
- 4. Two Gigabit Ethernet ports.

1.2 Back Panel

CMP201A



- I. 6 hot-swappable modules
- II. Single Power Supply
- III. Ground

2 Installation

2.1 Rack Installation

The CMP201A is designed to be mounted in a standard 19" rack. It takes 1RU of rack space. To install it into a rack, please use the following steps:

- 1. Determine the desired position in the rack for the CMP201A. Make sure that the air intake on the top of the unit and the exhausts on the back of the unit will not be blocked.
- 2. Install the brackets at desired position if there's no supporting plate in the rack.



- 3. Insert the rack mount clips into place over the mounting holes in the rack.
- 4. Slide the CMP201A into the position in the rack.
- 5. Secure the chassis to the rack by installing the four supplied screws through the front mounting holes and tightening.



2.2 AC Power Connection

Please only use the supplied 3-prong power connector or one with equal specifications. NEVER tamper with or remove the grounding pin. This could cause damage to CMP201A, personnel, or property. Make sure the power outlet is switched off before plug or unplug the power cable from the panel of CMP201A.

When you take the equipment from a cold condition into a much warmer and humid con dition, the equipment should be acclimated to the warm and humidity condition for at least 30 minutes. Powering up a non-acclimated unit may lead to shortcut or other damage to electronic components.

A professional UPS system is recommended for better performance of your content distribution system.

3 Module Overview

3.1 CMP201A Baseboard

CMP201A	Basic Function
Baseboard	120 inputs & 120 outputs IP channel

3.2 Receiver Modules

Module	Description		
CR2-DVBC-00	• 4 DVB-C Annex A/C or DTMB receive descrambling boards (one signal input interface, supporting signal internal looping, two CAM slots)		
CR2-DVBC-01	 4-channel DVB-C Annex B or ISDBT receiver descrambling board (one signal input interface, support signal internal loop connection, two CAM slots) 		
CR2-DVBS2CI-01	4-channel DVB-S2 receiving descrambling board (two DVB-S2 signal input interfaces, two CAM slots)		
CR2-DVBS2FTA-01/01A	 4/8-channel DVB-S2/FTA receiving board (four DVB-S2 signal input interfaces, 4 LNB independent power supply, no CAM slot, with shield), support 64APSK (DVB-S2X) 		
CR2-8VSB-00	4-channel 8VSB receiving module with 4 RF connectors		
CR2-DVBT2CI-00	 4-channel DVB-T/T2 receiver board (one signal input interface, support signal internal loop, two CAM slots) 		

3.3 Encoder Modules

Module	Description
CE2-HDMI-00	 4-channel HDMI HD encoder (broadcast level), supports H.264 HD/SD, MPEG-2 SD, MPEG1L2, AAC (optional), AC3 (optional)
CE2-HDMI-02	 2-channel HDMI HD encoder, supports H. 264/MPEG-2 HD/SD, MPEG1L2, AAC (support), AC3 (support), supports CC subtitles
CE2-HDMI-02C	 2-channel HDMI or component HD coding board, support H.264/MPEG-2 HD/SD, MPEG1L2 (support), AAC (support), AC3 (support), support CC subtitles and analog audio input
CE2-HDMI-06B	 4-channel HDMI HD encoding board (broadcast grade), support H.264 HD/SD, support B frame, MPEG1L2 (support), AAC (optional), AC3 (optional)
CE2-CVBS-00	 6-channel CVBS SD Coding Board (Broadcast Grade), Support H.264/MPEG-2 SD, MPEG1L2 (Fujitsu Chip)
CE2-CVBS-R01	 8-channel CVBS standard definition coding board (commercial grade), supporting H.264 SD, MPEG1L2, supporting superimposed OSD subtitles, station logos, and QR codes (HiSilicon chips)
CE2-SDI-01	 2-channel SDI HD coding board, support H.264/MPEG-2 HD/SD, MPEG1L2 (support), AAC (support), AC3 (support), support CC subtitles.
CE2-HDMI-R01A	 4-channel HDMI HD encoding board (commercial grade), support H.264 HD/SD, MPEG (supported), AC3 (optional), AAC (optional), support superimposed OSD subtitles, station logos, two-dimensional codes, do not support interlaced video signal input

CE2-HDMI-R05/R05A	•	4-channel/8-channel HDMI HD coding board (commercial grade), support H.264/H.265 HD/SD (support up to 1080p60 input), MPEG1L2 (support), AAC (optional), AC3 (optional), support superimposed OSD subtitles, station logos, QR codes
CE2-HDMI-06	•	4-channel HDMI HD encoding board (broadcast grade), support H.264 HD/SD, support B frame, MPEG1L2 (support), AAC (optional), AC3 (optional), support superimposed OSD subtitles, station logo, QR codes (Fujitsu chip)

3.4 Modulator Modules

Module	Description	
CM2-QAMA-R00	16-channel non-adjacent QAM-A/C modulation board.	
CM2-QAMB-R00	16-channel non-adjacent QAM-B modulation board.	
CM2-DTMB-R01	(4G DDR) 4-channel adjacent frequency DTMB modulation board	
CM2-DTMB-R01A	 (4G DDR) 8-channel adjacent frequency DTMB modulation board 	
CM2-QAMB-R01	 (4G DDR) 4-channel adjacent frequency QAM-B modulation board 	
CM2-QAMB-R01A	(4G DDR) 8-channel adjacent frequency QAM-B modulation board	
CM2-OFDM-R01	(4G DDR) 4-channel adjacent frequency OFDM modulation board	
CM2-OFDM-R01A	(4G DDR) 8-channel adjacent frequency QAM-B modulation board	

CM2-ISDBT-R01	(4G DDR) 4-channel adjacent frequency ISDBT modulation board
CM2-ISDBT-R01A	 (4G DDR) 8-channel adjacent frequency ISDBT modulation board
CM2-8VSB-R01	 (4G DDR) 4-channel adjacent frequency 8VSB modulation board
CM2-8VSB-R01A	4G DDR) 8-channel adjacent frequency 8VSB modulation board
CM2-DTMB-03	8-channels of adjacent frequency DTMB modulating board
CM2-QAMA-03	8-channels of adjacent frequency QAM-A/C modulating board
CM2-QAMB-03	 8-channels of adjacent frequency QAM-B modulating board
CM2-OFDM-03	8-channels of adjacent frequency OFDM modulating board
CM2-ISDBT-03	 8 channels of adjacent frequency ISDBT-T modulating board
CM2-8VSB-03	 8 channels of adjacent frequency 8VSB(ATSC) modulating board
CM2-QAMA-02	• 16 QAM-A modulation modules, 2 Gigabit IP input electrical ports, single port 512 inputs; 1 CAS interface (RJ45), support scrambling function (enabled by default); 1 RF output interface, support 16 QAM-A non-frequency modulation outputs, independent constellation mode configuration
CM2-QAMB-02	 16 QAM-B modulation modules, 2 Gigabit IP input ports, single port 512 inputs; 1 CAS interface (RJ45), support scrambling function (not enabled by default, additional authorization is required); 1 RF output interface, support 16 QAM-B non-frequency modulation outputs, independent

		constellation mode configuration
CM2-QAMA-02A	•	32 QAM-A modulation modules, 2 Gigabit IP input electrical ports, single port 512 inputs; 1 CAS interface (RJ45), support scrambling function (enabled by default); 1 RF output interface, support 32 QAM-A non-frequency modulation outputs, independent constellation mode configuration.
CM2-QAMB-02A	•	32 QAM-B modulation modules, 2 Gigabit IP input ports, single port 512 inputs; 1 CAS interface (RJ45), support scrambling function (not enabled by default, additional authorization is required); 1 RF output interface, support 32 QAM-B non-frequency modulation outputs, independent constellation mode configuration

3.5 Function Modules

Module	Description
CP2-EAS-00	 EAS signal processing module, support analog and digital EAS signal triggering, MPEG1L2 (support), AAC (support), AC3 (support)
CP2-CAM-00	• CI descrambling processing module, 2 independent CI card slots, compatible with mainstream CAM cards, support mainstream CAS decryption
CP2-EIT-00	• EIT multiplexing module supports 32 TS inputs and 16 TS outputs
CP2-ASI-00	 5 ASI modules, default 3 ASI inputs and 2 ASI outputs (each port input and output can be set)

• CP2-IP-00	IP protocol conversion module, 3 x Gigabit Ethernet ports (1 input and 2 output), 1 x HDMI, 1 x USB, support UDP/RTP/HLS/SRT protocol interconversion
• CP2-IP-02	Gigabit IP multiplexing processing module, with 2 RJ45 Gigabit ports, supports UDP/RTP protocol, and supports a maximum of 120 inputs and 120 outputs per port.
• CP2-IP-02-SFP	Gigabit IP multiplexing processing module, with 2 SFP Gigabit ports, supports UDP/RTP protocol, and supports a maximum of 120 inputs and 120 outputs per port.

3.6 Transcode Modules

	•	Transcoding module, 2 Gigabit Ethernet ports,
		supports 1-channel H.265/H264 4K to HD or
CA2-1A3-00		5-channel H.265/H.264 HD transcoding or
		6-channel H.264/MPEG-2 HD transcoding.

3.7 Decode Module

Module	Description
CD2-SDI-00	4-channel HD/SD SDI decoding and output board

4 Web GUI

4.1 Web GUI Overview

4.1.1 Connect the Management Port

Factory network settings of the Management Port:

- IP address 192.168.1.10
- Subnet Mask 255.255.255.0
- Gateway 192.168.1.254

Take the following steps to access the Web GUI in a browser.

- Connect laptop/computer to CMP201A management port directly.
- Set the IP address of the laptop/computer in the same network segment with the CMP201ABaseboard. CMP201A will occupy up to7 IP addresses if it's fully loaded as each module has its own IP address including the baseboard. *Please avoid possible IP address* conflict between management PC and CMP201A unit.
- Check the physical connection by ping command.

G Administrator: C:\Windows\system32\cmd.exe	
Microsoft Windows [Version 6.1.7601]	<u>^</u>
Copyright (c) 2009 Microsoft Corporation. All rights reserved.	=
C:\Users\diana.xu>ping 192.168.1.10	
Pinging 192.168.1.10 with 32 bytes of data:	
Reply from 192.168.1.10: bytes=32 time=2ms TTL=64	
Reply from 192.168.1.10: bytes=32 time=1ms TTL=64	
Reply from 192.168.1.10: bytes=32 time=1ms TTL=64	
Reply from 192.168.1.10: bytes=32 time<1ms TTL=64	
Ping statistics for 192.168.1.10:	
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),	
Approximate round trip times in milli-seconds:	
Minimum = Øms, Maximum = 2ms, Average = 1ms	
C:\Users\diana.xu>	
	Ψ

CMP201Ahas an embedded gigabit switch inside the chassis. You can use it as a switch with other devices together. The four network ports are respectively used for managing and streaming.

From left to right, port 1 and port 2 are used for management, port 3 and port 4 are used for data transmission. A good method of checking IP output is to play the IP streams using VLC player directly.

If you want to connect a switch between CMP201A and PC or other devices, this switch should support IGMP V2 and IGMP snooping function. If the switch you used is not configured properly, it could cause some network issue.

4.1.2 Logging into the Web GUI

Enter the CMP201A Baseboard IP address into the URL field of any recommended Web browsers (IE8 or above, Firefox, and Google Chrome) to access the login page. The default user name and password are both admin. Click *Login* to log into the GUI.

$\leftarrow \rightarrow c$	ŵ		08	192.168.1.10	0/login.html?s=T1U3IFO	4				80	90%	☆	
〕 火狐官方站点	🝅 新手上路	🗋 常用网址	🕲 w3so	hoot在线教程	🗲 Sencore - Video Bro	🗲 License Key Generator	😳 Cisco Webex Meetin	💦 我的视图	- MantisBT	リ 有道翻译_3	文本、文档	≝ ◀	🔈 Br
					CMP201	Media Platfo	orm						
					Username		Password						
				d	Þ∵rFnalish								
								Logir					
								Logi					

4.2 Status

Status>Device status

After a successful login, you will always enter the status overview page, where you can check the device status of:

- a) Module List: it shows the module(s) inserted
- b) Device host operating status, running status of fans and other status display options
- c) Menu Bar and time display

CMP201			c)	Status @ Input @ Output	May. 03rd, 2023 04:12:56
i Module List	Status Temperature: 58°C (136.4°F)	b)		Device Status	Device Alarm Device Information
3 CM2-ISDBT-R01A 5 CM2-ASI-00 6 CM2-QAMA-R01A				Reset Status Power Module Status Module Power	
		Module 4. Not inserted Module 1. Not inserted Mo	Module 5: Normal Module 2: Not inserted Module 2: Not inserted Module	e 6. Normal e 3. Normal Power	

We use only IE, Firefox and Chrome for testing procedures. If you use other browsers, like Microsoft Edge, you may encounter incomplete UI layouts, and configure setting in these browsers may lead to errors.

Status>Device Alarm

Device Alarm page shows the alarm settings and alarm record.

Status			Device Status	Device Alarm Device Information
				Alarm Setting Alarm Record
	Name	Location	Alarm Type	Last Changed
	Input unlock	Backboard Channel: 45	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 44	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 43	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 42	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 41	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 40	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 39	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 38	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 37	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 36	Input TSIP	2022/07/19 20:27:28
	Input unlock	Backboard Channel: 35	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 34	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 33	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 32	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 31	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 30	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 29	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 28	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 27	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 26	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 25	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 24	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 23	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 22	Input TSIP	2022/07/19 20:27:27
	Input unlock	Backboard Channel: 21	Input TSIP	2022/07/19 20:27:27

Status>Device alarm>Alarm Settings

Alarm setting lets the user set the alarms, logs, SNMP Trap, and different alarm parameters the user wants to see.

5					Device Sta	tus Device Alarm Device Information
		Alarm	Setting			Alarm Setting Alarm Reco
	Name	Z Alarm	🗹 Logs	SNMP Trap		Last Changed
	Device overheat	2			TCID	0000/07/40 00-07-09
	Power supply abnormal	2	2		+ TOID	2022/07/19 20:27:20
	Module loading failure	2	2		TRIP	2022/07/19 20:27:28
	Output overflow	2			TSIP	2022/07/19 20:27:28
	Input unlock	2	2		t TSIP	2022/07/19 20:27:28
	Input overflow	2	2		t TSIP	2022/07/19 20:27:28
	Link down		2		t TSIP	2022/07/19 20:27:28
	Low fan speed	2	2		t TSIP	2022/07/19 20:27:28
					t TSIP	2022/07/19 20:27:28
					TOID	2022/07/40 20/27/29

Status>Device alarm>Alarm Record

Alarm Record lets the user see the name of the alarm, the location, if it is still active, and the last time it was changed.

	Alarm	Record		龠 ↓	Alarm Setting	Alan
 Name	Location	Status	Alarm Type	Last Changed		
Input unlock	Backboard Channel: 1	Activate	Input TSIP	2022/07/19 20:27:27	Last Chang	gea
Input unlock	Backboard Channel: 2	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 3	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 4	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 5	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 6	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 7	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 8	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 9	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 10	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 11	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:28
Input unlock	Backboard Channel: 12	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:27
Input unlock	Backboard Channel: 13	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:27
Input unlock	Backboard Channel: 14	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:27
Input unlock	Backboard Channel: 15	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:27
Input unlock	Backboard Channel: 21	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:27
Input unlock	Backboard Channel: 22	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:27
Input unlock	Backboard Channel: 23	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:27
Input unlock	Backboard Channel: 24	Activate	Input TSIP	2022/07/19 20:27:27	2022/07/19 20:27	7:27
				· · · · · · · · · · · · · · · · · · ·	2022/07/19 20:27	7:27
					2022/07/19 20:27	7:27
		Close			2022/07/19 20:27	7:27
					2022/07/19 20:27	7:27

Status>Device Information

Device Information page shows the firmware version, software version, and hardware version of baseboard and each inserted module.

atus			Device Status De	vice Alarm Device Informatio	
Module	Firmware Version	Software Version	Build Version	Hardware Version	
Baseboard	V0.2.1039	V1.5.40	V1.5.40	V0.0.0.1	
3.CM2-ISDBT-R01A	V73.3.258	V1.5.4	V1.5.4	V0.0.0.1	
5.CP2-ASI-00	V0.2.740	V1.5.0	V1.0.21	V0.0.0.0	
6.CM2-QAMA-R01A	V76.3.258	V1.5.1	V1.5.1	V0.0.0.1.1	

4.3 System Setting

Click the **System Setting** on the top right corner to enter the system setting page where you can find *Network, Time Setting, System Manage, Password, NMS Register, Advanced Setting, and SNMP*

System Setting> Network

In *Network* page you can assign a static IP address to CMP201A's baseboard. Click the *Apply* button on the right side to make the change take effect.

			Stat	us 🎡 Input 🎡	Output 💮 System Setti	ng <u>A</u> agent+
System Setting	9			Network System	Time User SNMP	Advanced Settir
Advanced Setting						
IPV4 IPV6						
Module Name	IP Address	Subnet Mask	Default Gateway	DNS Server IP	MAC Address	Apply
VMS	192.168.1.10	255.255.255.0	192.168.1.254	0.0.0	A0:69:86:07:26:E6	
ATA	192.168.2.140	255.255.255.0	192.168.2.1	0.0.0.0	A0:69:86:07:26:E5	
Tips						
1. When the subnet	of the internal Baseboa	rd IP address is changed	I, the IP addresses of all the m	odules will follow the subr	et change automatically.	
2. The IP addresses	of all the modules will I	be automatically set to fo	llow-on immediately after the E	aseboard address.		
3. IMPORTANT: To a elsewhere in the net	avoid IP address conflic work.	ts, ensure that all the IP	addresses assigned within the	chassis (Baseboard and I	Modules) are not used	

Note to avoid IP conflict when you set the baseboard IP address. The occupied IP section will be displayed in this page on the top blue area.

System Setting> Time

In *Time* page you can see the current system time, change *Time Zone*, choose system time *Mode* (Manual or Automatic), enable/disable *Auto Sync* and modify *NTP Server Address* in Automatic mode or change the current system *Time* in Manual mode. Click the *Apply* button on the right side to make the change take effect.

• Automatic mode

System Setting		Network	System	Time User SNMP		Advanced Setting	
	System Time	May. 03rd, 2023 04:18:33					Apply
	Mode	Manual		•			
	Time	2023/05/03 04:17:57			•		

• Manual mode

Sys	vstem Time			
		May. 03rd, 2023 04:19:16		Apply
Tim	me Zone	UTC +0: 00	•	Abbia
Мо	ode	Manual	-	
Tin	me	Manual Automatic	1	

System Setting>System

In **System** page you can do an upgrade, import or export configuration, import or export license (only for baseboard), reboot the whole unit, restore it to factory setting (only for baseboard), set SNMP MIB, export log and clear log (only for baseboard).

System Setting	Network	System Time User SNMP Advanced Settin
Upgrade		
Select Module	Automatic Detection	
Upgrade	Br	owse Upload
Configuration		
Import Configuration	Br	owse Upload
Export Configuration	Export	
License		
Product ID		
Import License	Br	owse Upload
Export License	Export	
Standard		
Select Standard	DVB S OK	
Select LCN Standard	International	
SNMP MIB		
Export MIB	Export	

System Setting> User

In User page you can reset login password.

d User	Password					
Account						
	Current Password	us			Operator	
admin Adn		le	Password			
	New Password					
	Confirm Password					
	OK Cancel					
		_				

System Setting> SNMP

In SNMP Setting page you can SNMP traps addresses.

System Setting			Network System Time U	Jser SNMP Advanced Setting
	SNMP: Trap IP Address1 (IPv4): Trap IP Address1 (IPv6):	Enable 0.0.0.0 2001:c008:1af	Enable:	Apply
	Trap IP Address2 (IPv4): Trap IP Address2 (IPv4):	0.0.0.0 2001::c0a8:1ae	Enable:	
	Read-Only Community: Read-Write Community:	public private		

System Setting> Advanced Setting

In *Advanced Setting* page you can do some changes about standard, priority ,Language ,Authorized Use Time, Destination Module Number, Reverse Proxy,CA Descriptor ,PAT Sync Update, PAT Version,, reboot the Switch Module.

System Setting			Network	System	Time	User	SNMP	Advanced Setting
	Standard	DVB	• 9					
	Priority Encoding	Auto	• 9					Apply
	Language	English	•					
	Authorized Use Time	Stay With First Level Authorized Time	• N	lever expires	9			
	Destination Module Number	4	• 9					
	Reverse Proxy Enable	Enable	• 9					
	CA Descriptor Filter	Disable	• 9					
	PAT Sync Update	Disable	• 9					
	PAT Version	Disable 🔹 0						
	VLAN Enable	Enable	• 9					
	ARP VLAN Tag	2	• 9					
	SSH/Telnet	Enable	• 9					
	Reboot Switch Module	Reboot Switch Module						

4.4 Input

Click the *IP Input* on the top line to go into IP input page where you can see *Status, Basic Setting, IGMP Setting* and *Service Configuration*.

Input >Status

In this page, you can check Total bitrate, each channel Total Bit Rate, IP Address and Port, Effective Bit Rate, TS Analysis and Service List.

IP Inpu	ıt			Status	Basic Setting	IGMP Setting	Service Configuration
Total Bitra	ate: 0.000 Mbps						
Channel	IP Address : Port	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List		
1.1	239.33.33.1 : 10000	0.000	0.000	۲	i 🗉 🔺		
1.2	239.33.33.2 : 10000	0.000	0.000	۲			
1.3	239.33.33.3 : 10000	0.000	0.000	۲			
1.4	239.33.33.4 : 10000	0.000	0.000	۲			
1.5	239.33.33.5 : 10000	0.000	0.000	۲			
1.6	239.33.33.6 : 10000	0.000	0.000	۲	III		
1.7	239.33.33.7 : 10000	0.000	0.000	۲			
1.8	239.33.33.8 : 10000	0.000	0.000	۲	III		
1.9	239.33.33.9 : 10000	0.000	0.000	۲			
1.10	239.33.33.10 : 10000	0.000	0.000	۲	III		
1 11	230 33 33 11 - 10000	0.000	0.000		:= *		

Click the icon (^(O)) in the **TS Analysis** list to see the TS analyzing result of this channel. Click the icon (^{IIII}) in the **Service List** to see the Services of each channel.

• TS Analysis

Click **Reset Counter** button to clear continuity count errors and restart counting. Fill in the search bar with the key words of PID / Bit rate / bandwidth / table type / service name in the search bar to get the info you want.

			Г	Soarch	
			L	Search	
PID	Bit Rate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
0×0(0)	0.001	0.085	0	PAT	
0x11(17)	0.001	0.085	0	SDT	
0x102(258)	0.001	0.085	0	Other	
0x103(259)	0.001	0.085	0	Other	
0x201(513)	0.269	22.816	0	Other	
0x202(514)	0.242	20.526	0	Other	
Dx294(660)	0.021	1.781	0	Other	
0x29e(670)	0.021	1.781	0	Other	

Service List

Click a service name to check the detailed info of this service.

			[302] CCTV 2				
		Туре	PID	Bit Rate(Mbps)			
	Channel + 1.1	PCR	8190	0.044			
	Channel : 1.1	PMT	258	0.018			
#	Sanvisa	Video(MPEG2)	513	4.899			
#	Service	Audio	660	0.256			
1	[302] CCTV 2		Close				
2	[303] CCTV 7		Close				

IP Input >Settings

Here you can configure IP input parameters: *Destination IP Address*, *Destination Port*, *Protocol* (UDP/RTP), and *TS Packets Per IP Packet*. Click *Apply* to make the setting take effect.

				Status	🕼 🕼 🖓 Output	System Setting	A agent -
Input					Status IP Setting	IGMP Setting Ser	vice Configuration
Batch Setting	~						
< 1	2 3 4	4 5 6 7 8 >					
Channel	Enable	Destination IP Address	Destination Port	Protocol	Input Processing Mode	Pkt Length	Apply
1.1	✓	227.10.29.99	3001	UDP 🔻	CBR	Auto 💌	
1.2		227.10.29.99	4001	UDP -	CBR	Auto 💌	
1.3	✓	239.192.0.220	10000	UDP 🔻	CBR	Auto 💌	
1.4		227.10.29.99	3001	UDP -	CBR	Auto 💌	
1.5		239.192.0.214	10000	UDP 🔻	CBR	Auto 💌	
1.6		239.192.0.215	10000	UDP 🔻	CBR	Auto 👻	
1.7		239.192.0.216	10000	UDP 🔻	CBR	Auto 👻	
1.8		239.192.0.217	10000	UDP 🔻	CBR	Auto 💌	
1.9		239.192.0.218	10000	UDP 🔻	CBR	Auto 💌	
1.10		239.192.0.219	10000	UDP 🔻	CBR	Auto 💌	
1.11		239.192.0.220	10000	UDP -	CBR	Auto 👻	

If you want to configure a batch of channels, please click "Batch Setting".

To set the IP input parameters in batch, you can check the boxes before parameters you need then choose/modify the values. Click *Apply* to make the setting take effect.

				Status	📔 🎯 Input 📔 🍥 Output	System Setting	A agent →
Input					Status IP Setting	IGMP Setting Serv	ice Configuration
Batch Setting	<u>,</u> ^						
Select Al	I		Start Channel-End Channel	1	- 120		
🗌 Enable	е	Disable 💌	Destination IP Address	227.10.20.8	0 Same 💌		Apply
Protoc	ol	UDP 💌	Destination Port	1234	Same 💌		Copped a
🗌 Input I	Processing	CBR 👻	Pkt Length	Auto	w		
Mode	2 3 4	4 5 6 7 8 >	Batch Setting				
Channel	Enable	Destination IP Addres	s Destination Port	Protocol	Input Processing Mode	Pkt Length	
1.1		227.10.29.99	3001	UDP 🔻	CBR	Auto	
1.2		227.10.29.99	4001	UDP 🔻	CBR	Auto	
1.3	✓	239.192.0.220	10000		CBR	Auto 💌	

IP Input >IGMP Settings

User can set IGMP version, IGMP Automatic report, and IGMP Report Cycles in this page.

Input			Status	IP Setting	IGMP Setting	Service Configuration
IGMP Ve	ersion:	V2	•			
IGMP A	utomatic Report:	Enable	•			Apply
IGMP Re	eport Cycle(s):	15				

Input >Service Configuration

To stream an input source, you can configure the destination in this page.

Service Name		Destination	Destination Setting
Channel 1.1	+		\$
] Program0		3.CM2-ISDBT-R01A[1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8]	1
2] Program1		3.CM2-ISDBT-R01A[1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8]	1
22] Program2		3.CM2-ISDBT-R01A[1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8]	1
32] Program3		3.CM2-ISDBT-R01A[1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8]	1
35] Program4			1
3] Program5		5.CP2-ASI-00[1.1, 1.2]	l l
D 17 (SDT, BAT)			1
D 18 (EIT)			1
D 20 (TOT, TDT)			1
D 21 (Other PID)			1
Channel 1.3	+		\$
] Program0			1

Multiplex or Bypass stream: Click the setting icon (*), check the output module, and then you can set the output channel of this stream. After you select bypass mode, this output channel will be occupied only by this stream and when you set other stream output channels, this channel will not be available in this time.

Multiplex services: You should click the service line setting icon (<) to make the certain service output from certain channel combining with other services. The operation you can refer to multiplex stream output.

I-DTMB-00 >>	Channel1	Multipley	
I-QAM-00		www.	Bypass
	Channel2	 Multiplex 	Bypass
	Channel3	Multiplex	🕑 Bypass
	Channel4	Multiplex	Bypass
	Channel5	Multiplex	Bypass
	Channel6	Multiplex	Bypass
	Channel7	Multiplex	Bypass
	Channel8	Multiplex	Bypass
	Channel9	Multiplex	Bypass
	Channel10	Multiplex	Bypass
	Channel11	Multiplex	Bypass
	Channel12	Multiplex	Bypass
	Channel13	Multiplex	Bypass

After setting output destination, click *Apply* to make it take effect. The destination channel will be displayed in the channel/service line. And you can also click *Clear Config* to clear all of the configuration.

There is a channel scan button (^{Channel Scan}) on top. Normally the input service list of each channel will load itself on this page, but when you change the input source, the list could not refresh immediately. You can refresh the changed channels manually by selecting the channel and clicking the channel scan button.

4.5 Output

IP Output >Status

The IP output status information you can check on this page is similar as that of IP input. The TS analysis and service list function are also available.

IP Out	put		S	tatus Basic	Setting Service Configuration	PSIP		
Total Bit	rate: 15.000 Mbps							
Chan	IP Address : Port	Effective Bitrate	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List		
1.1	228.10.20.31 : 1234	0.045	15.000	Normal	۲	i _		
1.2	227.10.20.2 : 1234	0.000	0.000	Normal	۲			
1.3	0.0.0.0 : 0	0.000	0.000	Normal	۲		-	
1.4	0.0.0.0 : 0	0.000	0.000	Normal	۲			
1.5	0.0.0.0 : 0	0.000	0.000	Normal	۲			
1.6	0.0.0.0 ; 0	0.000	0.000	Normal	۲			
1.7	0.0.0.0:0	0.000	0.000	Normal	۲			
1.8	0.0.0.0 : 0	0.000	0.000	Normal	۲			
1.9	0.0.0.0 : 0	0.000	0.000	Normal	۲			
1.10	0.0.0.0 : 0	0.000	0.000	Normal	۲			
1.11	0.0.0.0 ; 0	0.000	0.000	Normal	۲			
1.12	0.0.0.0 : 0	0.000	0.000	Normal	۲			
1.13	0.0.0.0 : 0	0.000	0.000	Normal	۲	12		
1.14	0.0.0.0 : 0	0.000	0.000	Normal	۲			
1.15		0.000	0.000	- CALL - CAL	-			

IP Output >IP Settings

Setting IP output channels is also similar to Setting IP input with addition of PSIP.

			(stat	us 🏾 🏠 Input	🏠 Out	out 🎡	System Setting	agent -
Output	:					Status	IP Setting	Service Configuration	PSIP
Total Bitra	ate: 0.000 Mbps								
Channel	IP Address: Port	Effective Bitrate(M	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service Lis	t		
1.1	227.10.20.1 : 1234	0.000	0.000	Normal	۲	1			
1.2	227.10.20.2 : 1234	0.000	0.000	Normal	۲	i			
1.3	227.10.20.3 : 1234	0.000	0.000	Normal	۲	1			
1.4	227.10.20.4 : 1234	0.000	0.000	Normal	۲	i			
1.5	227.10.20.5 : 1234	0.000	0.000	Normal	۲	i			
1.6	227.10.20.6 : 1234	0.000	0.000	Normal	۲	1			
1.7	227.10.20.7 : 1234	0.000	0.000	Normal	۲	i			
1.8	227.10.20.8 : 1234	0.000	0.000	Normal	۲	i			
1.9	227.10.20.9 : 1234	0.000	0.000	Normal	۲	i			
1.10	227.10.20.10 : 1234	0.000	0.000	Normal	۲	i			
1.11	0.0.0.0:0	0.000	0.000	Normal	۲	i =			
1.12	227.10.20.12 : 1234	0.000	0.000	Normal	۲	i			
1.13	0.0.0.0:0	0.000	0.000	Normal	۲	i			
1.14	0.0.0.0:0	0.000	0.000	Normal	۲	:=			

Multicast output setting: You should fill the fit multicast IP addresses as output in the Destination IP Address box. Please avoid IP conflict among baseboard, encoder modules (see encoder modules page) and other devices when you set the multicast output.

- Unicast output setting: You should fill the unicast receiving end's IP addresses in the **Destination** IP Address box.
- Destination MAC: Normally you do not need to enable the Destination MAC switch. Only in some specific case where the unicast stream cannot be received due to unknown reasons, you can enable Destination MAC and fill in the correct receiver MAC in instead of using unicast IP addresses.

Constant Rate of any output channel/TS/port ought to be set manually about 2 Mbps higher than the **Effective Bitrates** in the corresponding output channel/TS/port, since the **Effective Bitrates** might fluctuate a little bit. If you set the **Constant Rate** much higher that the **Effective Bitrates**, there will be lots of null packets in the output transport stream.

If you want to configure a batch of channels, please click "Batch Setting".

Batch Setting of IP output channels is also similar to that of setting IP input.

Output	t							Sta	tus IP Settir	ng Service Conf	iguration
atch Settir	<u>ng ^</u>										
Select A	AII			Start C	Channel-En	d Channel	1		- 120		
🗌 Enab	ole	Disable	~	🗌 Des	stination IP	Address	227.10	.20.80	Same	Ŧ	
Sour	ce Port	1000		🗆 Des	stination Po	ort	1234		Same	Ŧ	l
Prote	ocol	UDP	~	🗆 Pkt	Length		7	~			
🗆 Bitrat	te	25	(Mbps)	🗌 Ena	able Destina	ation MAC	Disable	Ŧ	AA:BB:CC:DD:	EE:FF	
				Batch	n Setting						
K Interval	1: 100	(n	is) Null Packet F	Batch	 Setting 						
K Interval	2 3	(m 4 5 6 Source Port	IS) Null Packet F	Batch	Setting	Pkt Length	Ritrate	Enable De	stination MAC	Destination M	_
Cinterval	2 3 Enable	(m 4 5 6 Source Port	 Null Packet F 8 > Destination IP 227.10.20.1 	Batch ilter: Disable Destination	Setting Protocol UDP	Pkt Length	Bitrate	Enable Des	stination MAC	Destination M 01.00.5E.0A.14.01	
interval interv	1: 100 2 3 Enable	(m 4 5 6 Source Port 1000	 Null Packet F 8 > Destination IP 227.10.20.1 227.10.20.2 	Batch	Protocol UDP UDP	Pkt Length 7 7	Bitrate 10 10	Enable Des Disable Disable	stination MAC	Destination M 01:00:5E:0A.14:01 01:00:5E:0A.14:02	
X Interval Channel 1.1 1.2 1.3	: 100 2 3 Enable 2 2 3 C	(rr 4 5 6 Source Port 1000 1000	 Null Packet Fi 8 > Destination IP 227.10.20.1 227.10.20.2 227.10.20.3 	Destination 1234 1234 1234	Protocol UDP V UDP V	Pkt Length 7 ▼ 7 ▼ 7 ▼	Bitrate 10 10	Enable Des Disable Disable Disable	stination MAC	Destination M 01:00:5E:0A:14:01 01:00:5E:0A:14:02 01:00:5E:0A:14:02	

IP Output >Service Configuration

You can make configuration for output services and TS.

		Status 💮 Input ۞ Output ۞ System S	Setting 🧟 agent -
Output		Status IP Setting Service	e Configuration PSIP
Olick "Apply" after modifying your parameters to save the configu	iration.		×
[1.1] TS 🛞	• ^	[1.1] TS >> Program4	Apply
1. Program4	Service ID	35	
	Service Name	Program4	Clear Config
	Service Provider	Program4	
	Service Type	2	
	PCR PID	3502	
	PMT PID	3501	
	Video(H264)	3502	
	Audio	3503	
	Private Data	3507	
	Private Data/AC3	3506	
		OK Cancel	

- TS setting: Click TS line (the blue area) to configure Original Network ID, TS ID and each Service ID, Service Name, and Service Provider.
- > NIT setting: Please refer to CM-QAM-00 module.
- > TOT setting: Configuration parameters about TOT.

			Status IP Settin	g Service Configuration
Click "Apply" after modifying your par	ameters to save the configuration.			×
[1.1] TS 1. Program4	8 * ^ (17.1.1	NIT TOT PMT	[1.1] TOT Configuration	[1.1] Apply
		Country Code	CHN	Clear
		Country Region Id	8	•
		Local Time Offset Polarity	UTC -	_
		Time Of Change	2022/01/01 00:00:00	
		Local Time Offset	00:00	
		Next Time Offset	00:00	

> PMT setting: Adding ES and Descriptors

		Add ES	system Setting	🏠 IP Input	💮 IP Output	R agent -
D. Outmut	Other PID List	Slot: [Main Board]; Channel: [1]; Other PID: [1795];				
POutput	Stream Type [0,255]	1	Status	Basic Setting	Service Configuration	PSIP
Click "Apply" after modifying	Tag(Hex)	40				
	Data(Hex)	0010e1				
I1 11 TS		Add Cancel			[1.2]	Apply
1. Program-01	(1.1.1	<pre>B B program.map_PID:100 => Program- table_id:2 - section_syntax_indicator:1</pre>	01			Clear Config
		program_number:1 version_number:1 current_next_indicator:1 PCR_PID:101 program_info_descriptors				



> IP Output >PSIP

PSIP page lets you out different tables such as PAT, PMT, SDT and the likes.

Output		Status Basic	Setting Service Configuration P
Output Ch	annel List	Output Channel [1.1] >> PSIP	
< 1 2 3 4	4 5 6 7 8	PAT Insert	
Output Observal		PMT Insert	
Output Channel	Select All	SDT Insert	
1.1		NIT Insert	
1.2		CAT Insert	
1.3	0	TDT Insert	
1.4		TOT Insert	
1.5		<u></u>	
1.6	0	OK	
1.7	0		
1.8			
1.9			
1.10			
1.11			
1.12			

4.6 Admin

Click **Agent** and you can choose to set the password or to log out.

May. 03	rd, 2023 04:47:42	
🛃 Status 😳 Input 😳 System Setting	R agent+	
User	Log Out	F
5 Module Configuration

5.1 Receiver Modules

5.1.1 CR2-DVBC-00

CR2-DVBC-00 is a 4-channel DVB- C /DTMB receiving and descrambling module with 1 RF female connector and 2 CI slots. It can receive 4 RF channels signal simultaneously and support 2 CAM cards descrambling.



Click CR2-DVBC-00 in the Module List then go to CR2-DVBC-00 module page.

CR2-DVBC -00 >Status

CR2-DVB	0-00				Status CI Basic	Setting Service	Configuration System
Channel	Locked Status	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	PER	RF Level	TS Analysis	Service List
1.1	Unlocked	0.000	0.000	0.00000000	-	۲	
1.2	Unlocked	0.000	0.000	0.00000000	-	۲	
1.3	Unlocked	0.000	0.000	0.00000000	-	۲	
1.4	Unlocked	0.000	0.000	0.00000000	-	۲	

Click **TS Analysis** of each channel, you can see TS Bitrate Analysis. Click **Reset Counter** to reset the Continuity Count Error counter. In Search bar, you can input key words or numbers, such as PIDs, Type or Service, for a quickly search.

Channel1.1 TS Analysis					Reset Counter
				Search	Q
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
		No	Data		

Click the icon [■] to check service information of all the inputs.

	Channel1.1		Channel1.2		Channel1.3		Channel1.4
#	Service	#	Service	#	Service	#	Service
1	[302] CCTV 2	1	[1] CNAI PAL	1	[1] India News HARYAI 🔶	1	[1] td HD Phx Infonews C
2	[303] CCTV 7	2	[2] CNAI NTSC	2	[2] India News RAJAS1	2	[2] td HD Phx Chinese C
3	[304] CCTV 10	3	[1001] TVB8	3	[3] India News	3	[3] td HD Phx HK Chann
4	[305] CCTV 11	4	[1003] CETV	4	[4] LTV		
5	[306] CCTV 12			5	[5] Delhi News		
6	[307] CCTV 15			6	[6] India News UP/UK		
		1		7	[7] India News MP		
				8	[8] NEWS X		

You can check program details by clicking the program item.

Type	PID	Bitrate(Mb
PCR	4130(0x1022)	4.995
PMT	4128(0x1020)	0.051
StreamType:27- Video(H264)	4130(0x1022)	4.995
StreamType:4-Audio	4131(0x1023)	0.272

CR2-DVBC-00 >CI

For the encrypted services received on CR2-DVBC-00 module receiver, CI slot is needed to decrypt and re-broadcast the services. The CR2-DVBC-00 has 2 CAM slots and can decrypt services depending on the capability of the CAM module and Smart Card. You can select the CAM Max Bit Rate from 48Mbps to 108Mbps in pull-down list depending on the total effective bitrate of services you want to decrypt at.

CR2-DVBC-00	Status CI Basic Setting Service Configure	tion System
CAM Max Bitrate: 72 Mbps CAM1 Auto Reset: Disable CAM2 Auto Reset: Disable CAM2 Auto Reset: Disable CAM1 (Not inserted)	MMI Setting CAM2 (Not inserted)	
		Apply

Click the *Apply* button on the right side to make the change takes effect.

CR2-DVBC -00 >Basic Setting

CR2-DVBC-00		Status CI Basic Setting Service Configur	ration System
Channel	Frequency(KHz)	SymbolRate(KBaud)	
1.1	208000	6875	
1.2	208000	6875	Apply
1.3	208000	6875	
1.4	208000	6875	

Name	Range
Frequency (KHz)	47000~862000
Symbol Rate(KSym/s)	3600~6950

Click the *Apply* button on the right side to make the change take effect.

CR2-DVBC-00 >Service Configuration

CIVE-DVDC-00			Stat	us Cl	Basic Se	tting Service Configura	ation Sys
Channel Select: Channel 1.1	→ S	canning Time(ms): 1000	SI Search Time(ms): 5000 Program Sc	an			
Service Name		Descrambling	Destination			Destination Setting	
Channel 1.1	+					¢	Apply
[1] HDMI		No Descrambling 💌				1	
[2] SDI		No Descrambling 💌				1	Clear
PID 20 (TOT, TDT)		No Descrambling				/	Config

Service Configuration page is where you can manage the received services and output them to their designated interface. The configuration of all modules in CMP201 is mostly the same.

First, you need to scan the port on each LOCKED TS. Each port might be scanned automatically or needed to be scanned manually when its source is changed.

After scanning each channel, you can start to configure the services. You need to click *Apply* button after you configure service to CAM for descrambling, otherwise the descrambling configuration will not be saved. Then you can choose the services to be routed, you can output each service by clicking the icon the icon hellow "Destination Settings". You can route a whole stream or a service(s) from the input channel toward the available output channels (IP or RF). Two types of routing are possible.

- Bypass mode. In this mode, you can route a whole input transport stream towards an IP or RF output which will be occupied only by this stream. Any attempt of routing other stream/service towards this channel will be an error. This mode can only be set by clicking the icon I on the TS.
- 2. **Multiplex mode** is the counter part of the bypass mode. This mode allows the administrator to perform the following operations:
- a. Route a single service towards an output channel to create SPTS.
- b. Route services towards a single output channel to create MPTS.
- c. Route service/s AND stream/s from multiple channels towards a single output channel to create MPTS.

In *Descrambling Settings* there are CAM1, CAM2, No Descrambling to choose. Click *Apply* or *Clear Configuration* button on the right side to make the change take effect or clear all configurations.

CR2-DVBC-00			Status C	Basic Setting	Service Configuration	Syst
Change Modulate Type: DVBC	Apply					
Program Auto Scan						
Enable	Set					
License						
Product ID	EB13144680041					
Import License			Browse	Upload		
Export License	Export					
SNMP MIB						
Export MIB	Export					
Logs						
Open						
Others						
Reboot	Reset to Defaults					

On *System* page you can choose the modulation type as DVBC or DTMB Mode. Besides you can also perform *Import/Export License*, *Reboot* the module, *Restore the unit to factory defaults* and *Log Export* & *Clear*.

5.1.2 CR2-DVBC-01

4-channel DVB-C Annex A/C or ISDBT receiver descrambling board (one signal input interface, support signal internal loop connection, two CAM slots)



The configuration and parameters are almost the same as DVBC-00.

5.1.3 CR2-DVBS2CI-01

CR2-DVBS2CI-01 is a 4-channel DVB-S/S2 receiving descrambling board (two DVB-S2 signal input interfaces, two CAM slots).



Service configuration is similar to CR2-DVBC-00. *Status*, *Cl Status* and *System* operation refer to CR2-DVBC -00 module section.

CR2-DVBS2CI-01 >Basic Setting

CR2-DVBC-01	Status CI Basic Setting Service Configuration	n System
Channel	Frequency(KHz)	
1.1	474000	
1.2	384000	Apply
1.3	474000	
1.4	474000	

Name	Range
Frequency (KHz)	47000~862000
Symbol Rate(KSym/s)	3600~6950

5.1.4 CR2-DVBS2FTA-01/01A

CR2-DVBS2FTA-01 is a 4-channel DVB-S/S2/S2XFTA receiving module with 4 RF connectors, and 4 LNBs that are independently powered. S2 supports up to 32APSK, S2X supports up to 64APSK.



CR2-DVS2FTA-01 > Status

1: C	R2-DVBS2FTA	-01		Status	Biss Settings	Service Configura	tion IP Outp	out System	Operation		
hannel	Locked Status	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	PER	RF Level	CNR(dB)	Link Margin(FEC Code Rate	Modulation	TS Analy	Service L
1.1	Locked	130.159	7.500	0.00000000	-34dBm (74dBµV	24.000	5	11/15	64APSK	۲	:
2.1	Unlocked	0.000	0.000	0.000000000	-	0.000	0	1/2		۲	:=
3.1	Unlocked	0.000	0.000	0.00000000	-	0.000	0	1/2		۲	:=
4.1	Unlocked	0.000	0.000	0.000000000	-	0.000	0	1/2		۲	:=
4											•

Click **TS Analysis** of each channel, you can see TS bit rate analysis. Click **Reset Counter** to reset the Continuity Count Error counter. In Search bar, you can input key words or numbers, such as PIDs, Type or service, for a quickly search.

				Search	
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
0x0(0)	0.007	0.025	0	PAT	
0x1eO(480)	0.007	0.025	0	PMT	
0x1001(4097)	7.213	26.091	0	PCR, Video	
0x1002(4098)	0.270	0.977	0	Audio	

Click the icon^I to check service information of all the inputs.

	Channel : 1.1	Channel : 2.1		Channel : 3.1				Channel : 4.1
#	Service	#	Service		#	Service	#	Service
1	[100]	1	[302] CCTV 2		1	[302] CCTV 2	1	[302] CCTV 2
		2	[307] CCTV 15		2	[307] CCTV 15	2	[307] CCTV 15
		3	[402] HNSTVHD		3	[402] HNSTVHD	3	[402] HNSTVHD
		4	[412] HNTVAVS+		4	[412] HNTVAVS+	4	[412] HNTVAVS+
		5	[2] Encryption		5	[2] Encryption	5	[2] Encryption
		6	[500] Jiajiakatong		6	[500] Jiajiakatong	6	[500] Jiajiakatong

You can check program details by clicking the program item.

CR2-DVS2FTA-01 > Parameter Setting

CR2-DV	CR2-DVBS2FTA-01A Status Biss Basic Setting Service Configuration IP Output System											
Channel	Satellite Frequency(MHz)	SymbolRate(KBaud)	LNB Frequency(MHz)	LNB Powe	r L	NB 22KHz	DiSEqC Level		DiSEqC Port	DiSEqC Bytes(Hex)		
1.1	3840	27500	5150	off	•	ff 🚽	Disable •	•] [•	· •	FFFFFFFFFF	Г	
2.1	3840	27500	5150	off	•	r –	Disable		· •	FFFFFFFFFF	(Apply
3.1	3840	27500	5150	off	•	" –	Disable	•	· ·	FFFFFFFFFF		
4.1	3840	27500	5150	off	•	ff 🔹	Disable	•	· ·	FFFFFFFFF		
5.1	3840	27500	5150	off	- 0	ff 👻	Disable •	1	· •	FFFFFFFFF		
6.1	3840	27500	5150	off •	•	ff 🔹	Disable	1	· ·	FFFFFFFFFF		
7.1	3840	27500	5150	off	•	ff 💌	Disable •	•	· ·	FFFFFFFFFF		
8.1	3840	27500	5150	off		ff 💌	Disable	1	· ·	FFFFFFFFF		

Channel 1.1, 1.2, 1.3 and 1.4, 4 LNBs are powered independently.

Name	Range
Satellite Frequency (MHz)	950~14500
Symbol Rate(KBaud)	1000~45000
LNB Frequency(MHz)	0~13550
LNB Power	Off/13v/18v
LNB 22KHz	Off/22KHz
DISEqC Level	1.0, 1.1, 1.1+1.0,
	Manually Defined,
	Disable
DISEqC Port	1,2,3,4
DISEqC Bytes	In HEX

The absolute value of the difference between the Satellite Frequency and the LNB Frequency must be in the range [950, 2150].

Click the **Apply** button on the right side to make the changes made take effect.

CR2-DVS2FTA-01 > Biss

Here you can create **Biss ID**, including **Mode**, **Key** and **Injected ID**. And you can check the Service Information in the **Service List**, then select **Biss ID/Biss-Off** for the services.

1: CR	2-DVBS2	2FTA-01			Status Biss S	ettings Service Configuration IP	Output System Operat
	Biss-E 🔻	321434354654654€	32425543534646 +			^	
Biss ID	Mode	Key	Injected ID	⊗.	Service Information	Biss ID	Appl
1	Biss-1 💌	111223232114		×	[1.1][302] CCTV 2	1	-
2	Biss-E 🔻	3214343546546546	32425543534646	X .	[1.1][307] CCTV 15	2	•
		·	·		[1.1][402] HNSTVHD	Biss-Off	•
					[1.1][412] HNTVAVS+	Biss-Off	•
					[1.1][2] Encryption	Biss-Off	•
					[1.1][500] Jiajiakatong	Biss-Off	•
					[2.1][302] CCTV 2	Biss-Off	•
					[2.1][307] CCTV 15	Biss-Off	•
					[2.1][402] HNSTVHD	Biss-Off	•
					[2.1][412] HNTVAVS+	Biss-Off	•
					[2.1][2] Encryption	Biss-Off	-
					[2.1][500] Jiajiakatong	Biss-Off	•
					[3 1][302] CCTV 2	Biss-Off	-

Click the *Apply* button on the right side to make the changes made take effect.

CR2-DVS2FTA-01 > Service Configuration

1: CR2-DVBS2FTA-01		Status	Biss	Basic Setting	Service Configuration	IP Output	Sj
9 There are unapplied setting	gs, plea:	e click the apply button to apply your settings!					
Channel Select : Channel 1.1	▼ So	anning Time(ms) : 1000	annel S	can			6
Service Name		Destination	ı			Destina Settir	
Channel 1.1	+					3 ^	0
302] CCTV 2		17.Baseboard	1.9]			4	
307] CCTV 15		7.CM2-ISDBT-R0	IA[1.1]				
402] HNSTVHD						4	
412] HNTVAVS+							
2] Encryption						4	
500] Jiajiakatong							
PID 1 (Other PID)						1	
PID 33 (Emm PID)							
Channel 2.1	+					3	
2001 00T (2		47 Decebeerd	4.01				

1.CR2-DVBS2FTA-01 <	< 1 2 3 4 >	
2.CM2-MOD-02 >>	Channeld	Multipley
7.CM2-ISDBT-R01A >>	Channell	C Walapiex
17 Baseboard	Channel2	Multiplex
17.basebbald	Channel3	Multiplex
	Channel4	Multiplex
	Channel5	Multiplex
	Channel6	Multiplex
	Channel7	Multiplex
	Channel8	Multiplex
PID	Туре	Enable
8190(0x1ffe)	PCR	2
513(0x201)	StreamType:2-Video(MPEG2)	
660(0x294)	StreamType:4-Audio	

Click **Apply** or **Clear Configuration** button on the right side to make the changes made take effect or clear all configuration.

 Scanning Time (ms)1000~12000. Please try to increase this value if service name is not present, while it will slow down scanning process.

Channel Select : Channel 5.1	Scanning Time(ms) : 1000	SI Search Time(ms) : 5000	Program Scan
Please try to increase this val	ue if service name is not present, while it will slo	w down scanning process.	

 SI Search Time (ms)5000~12000. Please try to increase this value if SI is not present, while it will slow down scanning process.

Channel Select : Channel 5.1	Scanning Time(ms) :	1000	GSI Search Time(ms) : 5000	Program Scan
Please try to increase this value it	if service name is not pres	sent, while it will slow down	scanning process.	

CR2-DVS2FTA-01 > IP Output

This feature enables you to output S2 services directly without involving baseboard processing. No baseboard resources will be consumed in this way.

IP Output > Status> This page shows detailed status of each channel. The TS Analysis and Service List here have the same function to those on the Status page. See the image below for reference.

CMP201A User Guide

1: CR2-D	VBS2FTA-01				Status	Biss S	ettings Service C	onfiguration	IP Output	System Op	eratior
								Status	Settings S	Service Config	uration
Channel	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	Bitrate	IP Address :	Port TS	Analysis	Service List		Chann	el : 1.1	
1.1	25.004	0.042	Normal	227.10.30.1 :	1234	۲.		# Se	ervice		
1.2	25.004	0.042	Normal	227.10.30.2 :	1234	۲		4 12			
1.3	0.000	0.000	Normal	227.10.30.3 :	1234	۲	:=		502] CCTV 2		
1.4	0.000	0.000	Normal	227.10.30.4 :	1234	۲	:=				
1.5	0.000	0.000	Normal	227.10.30.5 :	1234	۲					
1.6	0.000	0.000	Normal	0.0.0.0 :	D	۲	i =				
1.7	0.000	0.000	Normal	0.0.0.0 :	D	۲	:=				
1.8	0.000	0.000	Normal	0.0.0.0 :	D	۲	i =				
1.9	0.000	0.000	Normal	0.0.0.0 :	D	۲					
1.10	0.000	0.000	Normal	0.0.0.0 :	D	۲	i =				
1.11	0.000	0.000	Normal	0.0.0.0 :	D	۲	=				
1.12	0.000	0.000	Normal	0.0.0.0 :	D	۲	I				
1.13	0.000	0.000	Normal	0000	n	۲	:= *				
hannel 1.1	TS Analysis									Reset Counte	er (
							Search				Q,
	PID	Bitrate(Mbps)	Band	width(%)	Continuity	Count Error	Тур)e		Service	
	0x0(0)	0.015	0	.060		0	PA	Т			
	0x11(17)	0.013	0	.052		D	SD	SDT			
0:	x102(258)	0.013	0	.052		D	PM	Т		CCTV 2	
0:	x201(513)	0.000	0	.000		0	Vide	80		CCTV 2	

1: CR2-E	OVBS2FTA-01				Status Biss S	Settings Service (Configuratior	IP Outp	ut System Operation
							Status	Settings	Service Configuration
Channel	Total Bitrate(Mbps)	Effective Bitrate(Mb	Bitrate	IP Address : Port	TS Analysis	Service List			
1.52	0.000	0.000	Normal	0.0.0.0 : 0	۲				
1.53	0.000	0.000	Normal	0.0.0.0:0	۲				
1.54	0.000	0.000	Normal	0.0.0.0:0	۲				
1.55	0.000	0.000	Normal	0.0.0.0:0	۲				
1.56	0.000	0.000	Normal	0.0.0.0:0	۲	i =			
1.57	0.000	0.000	Normal	0.0.0.0:0	۲				
1.58	0.000	0.000	Normal	0.0.0.0:0	۲	I			
1.59	0.000	0.000	Normal	0.0.0.0 : 0	۲				
1.60	0.000	0.000	Normal	0.0.0.0:0	۲	=			
1.61	0.000	0.000	Normal	0.0.0.0 : 0	۲				
1.62	0.000	0.000	Normal	0.0.0.0 : 0	۲	i =			
1.63	0.000	0.000	Normal	0.0.0.0 : 0	۲	=			
1.64	0.000	0.000	Normal	0.0.0.0:0	۲	· ·			

*IP Output > Settings >*On this page, there are three tabs where you can modify the multicast IP, ports and parameters of IP Output. There is also Batch Setting. The destination IP address can be multicast IP address or unicast IP address.

There are 64 IP output channels. Mark the Enable checkbox in front of each channel. Input the correct Multicast/Unicast IP address, port and appropriate output bitrate, and select a correct output protocol. Click *Apply* to make the changes take effect.

Batch Setting is where you can input the IP output parameters in batch. See the image below for reference.

1: CR2-DVBS2FT	A-01				Status B	iss	Settings Servi	ce Configuration IP Out	put Systen
								Status Settings	Service Co
tch Setting ^									
Select All		Start Ch	Start Channel-End Channel		1	64			
Enable	Disable	- Desti	nation IP Address		227.10.20.80	Same	Ŧ		
Source Port	1000	Destin	nation Port		1234	Same	~		
Protocol	UDP	- TS Pa	ackets Per IP Pack	ket	7 •				
Bitrate	25	Enabl	le Destination MA	C	Disable 💌	AA:BE	B:CC:DD:EE		
Interval: 100									
Interval: 100	> Source Port	Destination IP Address	Destination P	Protocol	TS Packets Per IP	Pa	Bitrate(Mbps)	Enable Destination M	Destin
Interval: 100 <	Source Port	Destination IP Address 227.10.30.1	Destination P	Protocol UDP •	TS Packets Per IP	Pa	Bitrate(Mbps)	Enable Destination M Disable	Destin 01:00:
Interval: 100 Image: Channel Enable 1.1 Image: Channel 1.2 Image: Channel	Source Port 1000 1000	Destination IP Address 227.10.30.1 227.10.30.2	Destination P 1234 1234	Protocol UDP • UDP •	TS Packets Per IP	Pa	Bitrate(Mbps) 25 25	Enable Destination M Disable • Disable •	Destin 01:00: 01:00:
Channel Enable 1.1 Ø 1.2 Ø	Source Port 1000 1000 1000	Destination IP Address 227.10.30.1 227.10.30.2 227.10.30.3	Destination P 1234 1234 1234	Protocol UDP • UDP •	TS Packets Per IP 7 7 7	Pa •	Bitrate(Mbps) 25 25 25 25	Enable Destination M Disable • Disable • Disable •	Destin 01:00: 01:00: 01:00:
Channel Enable 1.1 Ø 1.2 Ø 1.3 Ø	Source Port 1000 1000 1000 1000	Destination IP Address 227.10.30.1 227.10.30.2 227.10.30.3 227.10.30.4	Destination P 1234 1234 1234 1234	Protocol UDP • UDP • UDP • UDP •	TS Packets Per IP 7 7 7 7 7	Pa • •	Bitrate(Mbps) 25 25 25 25 25	Enable Destination M Disable • Disable • Disable • Disable •	Destin 01:00: 01:00: 01:00: 01:00:
Interval: 100 Image: 1 2 3 4 Channel Enable 1.1 Ø 1.1 Ø 1.2 Ø 1.3 Ø 1.4 Ø 1.5 Ø Ø	Source Port 1000 1000 1000 1000 1000 1000 1000 10	Destination IP Address 227.10.30.1 227.10.30.2 227.10.30.3 227.10.30.4 227.10.30.5	Destination P 1234 1234 1234 1234 1234 1234	Protocol UDP • UDP • UDP • UDP •	TS Packets Per IP 7 7 7 7 7 7	Pa	Bitrate(Mbps) 25 25 25 25 25 25 25	Enable Destination M Disable • Disable • Disable • Disable • Disable •	Destin 01:00: 01:00: 01:00: 01:00: 01:00:
Channel Enable 1.1 2 3 4 1.1 2 3 4 1.2 2 3 4 1.3 2 3 4 1.4 2 3 4 1.5 2 3 5	Source Port 1000 1000 1000 1000 1000 1000 1000	Destination IP Address 227.10.30.1 227.10.30.2 227.10.30.3 227.10.30.4 227.10.30.5 227.10.30.6	Destination P 1234 1234 1234 1234 1234 1234 1234	Protocol UDP •	TS Packets Per IP 7 7 7 7 7 7 7 7 7	Pa	Bitrate(Mbps) 25 25 25 25 25 25 25 25 25	Enable Destination M Disable • Disable • Disable • Disable • Disable • Disable •	Destin 01:00: 01:00: 01:00: 01:00: 01:00: 00:00:
Interval: 100 I 2 3 4 Channel Enable 1.1 Ø 1.1 Ø 1.2 Ø 1.3 Ø 1.4 Ø 1.5 Ø 1.6 1.7 0	Source Port 1000 1000 1000 1000 1000 1000 1000 10	Destination IP Address 227.10.30.1 227.10.30.2 227.10.30.3 227.10.30.4 227.10.30.5 227.10.30.6 227.10.30.7	Destination P 1234 1234 1234 1234 1234 1234 1234 1234	Protocol UDP • UDP •	TS Packets Per IP 7 7 7 7 7 7 7 7 7 7 7	Pa • • • • • • • • • • • • •	Bitrate(Mbps) 25 25 25 25 25 25 25 25 25 25 25	Enable Destination M Disable • Disable • Disable • Disable • Disable • Disable • Disable •	Destin 01:00: 01:00: 01:00: 01:00: 01:00: 00:00:

If you want to use IP output channels in the receiver module and baseboard IP output channel at the same time, you should avoid multicast IP addresses conflicts. If there are two identical IP addresses enabled concurrently, both the multicast transport streams will be affected.

IP Output > Service Configuration>Users can make configuration for output services.

TS setting: Click TS line (the blue area) to make the modification of Original Network ID, TS ID and each Service ID, Service Name, and Service Provider, etc.

CR2-DVBS2FTA-01			Status Biss Settings	Service Configuration IP Outp	ut System Ope
				Status Settings	Service Configur
Please click "Apply" after modifyir	ng parameters. Otherwise, new configura	ation can not be saved.			×
[1.1] TS	¢ ~		[1.1] TS		C
I. CCTV 2	(11)	Original Network ID	1		
.2] TS	¢ ~	T S ID	1		
CCTV 2	(11)	NO. Service ID	Service Name	Service Provider	_
		1 302	CCTV 2	CCTV	
			OK Cancel		

♦ ∨	[1.1] TS >> CCTV 2
Service ID	302
Service Name	CCTV 2
1.1.1 Service Provider	CCTV
PCR PID	8190
PMT PID	258
Video(MPEG2)	513
Audio	660

- TS setting: Click TS line (the blue area) to configure Original Network ID, TS ID and each Service ID, Service Name, and Service Provider, etc.
- > NIT setting: Click the icon 2 to modify NIT Network and NIT Stream.

]TS	*	NIT			[1.1]
rogram0	(17.1.1)				
rogram1	(17.1.1)		IT Stream		
rogram2	(17.1.1)	Original Netwo	rk ID	0	
] TS[Bypass]	\sim	T S ID		0	
irogram0	17.1.1			Add	
rogram1	17.1.1	I			
rogram2	(17.1.1)	Original N	TS ID	Descriptor No Data	Operation

CR2-DVS2FTA-01 > System

On **System** page you can Enable/Disable Program Auto Scan, import/export **License**, export SNMP MIB files, **Reboot** module, restore **factory default settings** and manage **logs**.

CR2-D	BS2FTA-01A		Status	Biss	Basic Setting	Service Configuration	IP Output S	ystem
Program A	Auto Scan							
	Enable	Set Set						
License								
	Product ID	DF29321220001						
	Import License				Browse	pload		
	Export License	Export						
SNMP MIB	1							
	Export MIB	Export						
Logs								
	Open							
Others								
	Reboot	Resetto						

Log Manage>This page shows the logs of the module. If there are issues encountered on this

module, exporting the logs will help R&D team to analyze and fix them.

Turn on *Enable Real-time Log* switch, see the real time log messages and the security level of each message below.

Back			
Ô	<u>نه</u> <u>+</u>	Enable Real-time Log: ON	Filter: 🔽
	Level	Message	
	0	[SYS][Resource_setSlotResource:728] ====Customer ID status:[1][0:not same,1:same]!====^M ^M	
	0	[SYS][Resource_setSlotResource:730] au8CustomerNo[product]^M ^M	
	6	[SYS][Resource_setSlotResource:732] au8MainBoardCustomerNo[product]^M ^M	
	A	Failed loading /etc/dropbear/dropbear_dss_host_key	
	A	Failed loading /etc/dropbear/dropbear_ecdsa_host_key	
	A	Failed listening on '22': Error listening: Address already in use	
	6	Early exit: No listening ports available.	
	0	[SOCKET][Resource_SetConnectService:625] BB set to open SSH Servert ^A M	
		Tips: Debug Olnformati	on 🛆 Warning 🔇 Error
\geq	Click	to clear all log messages on the screen.	
		一 而	
0	Click	to delete all log information	
	CIICK	to delete all log information.	
\triangleright	Click	to export log information	
-	Short	to experting mornation	
		=	
	Click	to filter desired log messages	
-			
		4	

Clicking the filter icon, you can simply select what logs to be included.

L	evel	
Level	Operation	
Error		
Warning		
Information		
Debug		
Mod	ule List	
Module Name	Operation	
SYS		
INIT	e	
FPGA		
GPIO	✓	
CI	ø	
TEMP		
N/ED		

5.1.5 CR2-8VSB-00

CR2-8VSB-00 is a 4-channel 8VSB receiving module with 4 RF connectors.8VSB receiver is mainly adopted on ATSC standard.



CR2-8VSB-00 >Status

CR2-8VSE	3-00		Status Basic	Setting Service	Configuration System	
Channel	Locked Status	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	RF Level	TS Analysis	Service List
1.1	Unlocked	0.000	0.000	-	۲	
2.1	Unlocked	0.000	0.000	-	۲	
3.1	Unlocked	0.000	0.000	-	۲	
4.1	Unlocked	0.000	0.000	-	۲	

CR2-8VSB-00>Basic Setting

4 -channels receiving is supported with 4 connectors. All the CHs at specific frequency points are displayed when you select the fixed Channel Standard.

Don't forget to click *Apply* to finish configuration.

CR2-8VSB-00		Status Basic Setting Service Configuration S
Channel Standard: Off-Air		
Channel	СН	Reboot Tuner
1.1	CH2-57MHz	Reboot Appl
2.1	CH2-57MHz	Reboot
3.1	CH2-57MHz	Reboot
4.1	CH2-57MHz	✓ Reboot

Channel standard	СН
Off-Air	CH2-57MHz, CH3-63MHz, CH4-69MHz~
	CH67-791MHz, CH68-797MHz, CH69-803MHz
STD	CH2-57MHz, CH3-63MHz, CH4-69MHz~
	CH133-849MHz,CH134-855MHz, CH135-861MHz
IRC	CH2-57MHz, CH3-63MHz, CH4-69MHz~
	CH133-849MHz,CH134-855MHz, CH135-861MHz
HRC	CH2-55.75MHz, CH3-61.75MHz, CH4-67.75MHz~
	CH133-847.75MHz,CH134-853.75MHz, CH135-859.75MHz

Status, Service Configuration and System is similar to CR2-DVBC-00.

5.1.6 CR2-DVBT2CI-00

CR2-DVBT2CI-00 is a 4-channel DVB-T/T2 receiving and descrambling module with1 RF connectors and 2 CI slots.



Module configuration is similar to CR2-DVBC-00.

CR2-DVBT2CI-00 >Basic Setting

CR2-DVBT2CI	-00				Status	Basic Setting	Service Configu	uration System
Г2 MI: □								
Channel	Frequency(KHz)	Bandwidth(MHz	:)	PLP ID		Reboot	Tuner	
1.1	474000	8	•	0	•	Reb	oot	Apply
1.2	474000	8	•	0	•	Reb	oot	
1.3	474000	8	Ŧ	0	T	Reb	oot	
1.4	474000	8	•	0	•	Reb	oot	

Name	Range
Frequency (KHz)	47000~862000
Bandwidth (Mbps)	6 / 7 / 8 M

Click the *Apply* button on the right side to make the change take effect.

Status, Cl, Service Configuration and System please refer to CR2-DVBC-00.

5.2 Encoder Modules

5.2.1 CE2-HDMI-00/R01

CE2-HDMI-00 is a 4-channel HDMI input encoder which supports H.264 HD/SD or MPEG-2 SD encoding. The module supports MPEG1-L2, AAC and AC3 audio encoding.



CE2-HDMI-00/R01 >Status

CE2-HDI	MI-R01					Status Basic Sett	ing Insertion	Output System
HDCP turne	ed on.							
Program	Signal	HDCP Encryption	Input Video Resolution	Output Video Resolution	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Program Name
1	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-01 8
2	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-02 🚯
3	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-03 🚯
4	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-04 🚯

CE2-HDMI-00/R01 >Basic Setting

Advanc	ed Setting >									
rogram	Video Encoding Format	Video Resolution	Video Bitrate(Kbps)	GOP Size	Profile	Video Aspect Ratio	Audio Encoding Format	Audio Bitrate(Kbps)	Volur	
1	H.264 💌	Auto 💉	8000	25	Main 🔹	Automatic 🔹	MPEG1_Layer2	128 💌	0	Apply
2	H.264 👻	Auto 🥒	8000	25	Main	Automatic 🔹	MPEG1_Layer2	128 👻	0	
3	H.264 💌	Auto 💉	8000	25	Main 🔻	Automatic 🔹	MPEG1_Layer2	128 💌	0	
4	H.264 👻	Auto 🦨	8000	25	Main -	Automatic -	MPEG1_Layer2 -	128 👻	0	

Click *Advanced Setting* to see all parameters you can modify and check what specific parameters you want to set and see. Click the *Apply* button on the right side to make the change take effect.

/ideo Parameter 🗹				
✓Video Encoding Format	✓Video Resolution		∠Video Bitrate	
✓Profile	✓Video Aspect Rati	io		
Audio Parameter 🔽				
✓Audio Encoding Format	Delay		Audio Bitrate	Volume
Service Parameter 🔽				
✓Program Name	Video PID	Audio PID	PCR PID	✓PMT PID
✓Provider Name				
Shelter Parameter 🔽				
X	₩Y	Width	✓Height	Color
✓Shelter				

Setting range:

Video Encode Settings	Range	Video Encode Settings	Range
Video Type	H264 , MPEG2	GOP Close	Disable, Enable
Video Bitrate (Kbps)	600~20000	PCR2 PID	32~8190
Video Mode	CBR, VBR	PMT PID	32~8190
Video Max Bitrate (K bps)	20000	Service Name	Length is 1~16
Video Min Bitrate (K bps)	0	Service Provider Na me	Length is 1~16
Video Resolution	Auto , 1920×1080_60i ,	VLC Mode	CABAC
	1920×1080_50i,		CAVLC
	1920×1080_30p,		
	1920×1080_25p,		
	1080×720_60p, 1080×720_50p, 720×480_60i , 720×576_50i		
Video Frame Bitrate	Auto	Profile	HIGH
	59.94/29.97		MAIN
Video PID	32~8190	Level	3.0,3.1,3.2
			4.0,4.1,4.2

GOP Structure	IPPB, IPPP, IBP	Video Aspect Ratio	Auto
			16x9_LetterBox
			16x9_CutOff
			4x3_PillarBox
			4x3_CutOff
GOP Size	6~63		

Audio Encode Settings	Range	Audio Encode Settings	Range
Encoding Type	AC3	Audio Sampling Bitrate	48
	MPEG1_Layer2	(KHz)	
	MPEG2_AAC		
	MPEG4_AAC		
Audio Mode	Dual Channel	Audio PID	32~8190
	Mono		
	Stereo		
Encoding Bitrate(Kbps)	128~384 (AC3)	Volume	0~8
	64~384(MPEG1_Layer2) 32~384(MPEG2_AAC/ MPEG4_AAC)		

CE2-HDMI-R01 >Basic Setting

CE2-HDMI-00 is similar to CE2-HDMI-R01, there are a few differences on Advanced Setting range.

Advanced Setting 🗸					
Video Parameter 🗆					
Video Encoding Format	Video Resolutio	n	✓Video Bitrate	GOP Size	
Profile	Uideo Aspect Ra	atio			
Audio Daramator					
Audio Parameter					
Audio Encoding Format	Delay		Audio Bitrate	Volume	
Service Parameter					
	⊂Video DID	- Audio DID			
			PCKPID		
Provider Name					
Shelter Parameter					
X	ΠY	Width	Height	Color	
Shelter					

Video Encode Settings	Range	Video Encode Settings	Range
Video Type	H264	PCR2 PID	32~8190
GOP Size	1~99	PMT PID	32~8190
Video Resolution	Auto,1920×1080_60i,	Program Name	Length is 1~16
	1920×1080_50i,		
	1920×1080_30p,		
	1920×1080_25p,		
	1080×720_60p 1080×720_50p, 720×480_60i,720×576_50i		
Profile	HIGH	Provider Name	Length is 1~16
	MAIN		
Video PID	32~8190		

Audio Encode Settings	Range	Audio Encode Settings	Range
Audio Type	MPEG1_Layer2	Audio PID	32~8190
	AC3		
	AAC		
Audio Bit rate(Kbps)	32~192	Volume(dB)	-20~20
Delays(ms)	-2000~2000		

Shelter Parameters	Range	Shelter Parameters	Range
Shelter	Enable/Disable	X	0~1920 (Dual)
Y	0~1080 (Dual)	Width	2~1920 (Dual)
Height	2~1080 (Dual)	Color	White/Black/Blue/Green/Red

CE2-HDMI-00/R01 >Output

					Status Dasit Setting	Output Syste
rect IP Output	Multiplexing					
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC	Destination MAC	
1		227.10.20.90	1234	Disable	01:00:5E:0A:14:5A	
2		227.10.20.90	1235	Disable	00:00:00:00:00	
3		227.10.20.90	1236	Disable	00:00:00:00:00	
4		227.10.20.90	1237	Disable	00:00:00:00:00	1
Ivanced Setting	0		лр.		Status Basic Setting Insertic	on Output Sy
dvanced Setting P-HDMI-R01 t IP Output M	ultiplexing RT	MP Output	μ		Status Basic Setting Insertio	on Output Sys
dvanced Setting P-HDMI-R01 tt IP Output M	ultiplexing RT	MP Output	лц		Status Basic Setting Insertio	on Output Sys
dvanced Setting P-HDMI-R01 It IP Output M Program	ultiplexing RT Enable	MP Output Destination IP Address	Destination Port	Enable Destination MAC	Status Basic Setting Insertio	on Output Sys
-HDMI-R01 tiPPOutput M 1	ultiplexing RT Enable	MP Output Destination IP Address [227.10 20.90	Destination Port	Enable Destination MAC	Status Basic Setting Insertio Destination MAC	on Output Sy:
-HDMI-R01 tiP Output M 1 2	ultiplexing RT Enable	MP Output 227.10 20 90 227.10 20 90	Destination Port 1234 1235	Enable Destination MAC Disable	Status Basic Setting Insertion Destination MAC 01:00.5E:0A:14:5A 01:00.5E:0A:14:5A	on Output Sys
Ivanced Setting -HDMI-R01 tiP Output M Program 1 4 2 3	ultiplexing RT Enable 2 2 2	MP Output Destination IP Address 227.10 20.90 227.10 20.90 227.10 20.90	Destination Port 1234 1235 1236	Enable Destination MAC Disable Disable Disable Disable Disable	Status Basic Setting Insertion 01:00:5E:0A:14:5A 01:00:5E:0A:14:5A 01:00:5E:0A:14:5A	on Output Sys

For the Output, both models have direct IP output and multiplexing, but only CE2-HDMI-R01 has RTMP output settings.

This feature is specifically for single program encoding and IP output directly. Outputting in this way will not occupied baseboard multicast bandwidth.

If you want to use IP output channel in the encoder module and the baseboard IP module at the same time, you should avoid a multicast IP address conflict. If there are two same IP addresses enabled meantime, all the multicast videos will be affected.

- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional cases where the unicast stream cannot be received with unicast IP addresses. You can enable destination MAC and streaming out by setting Destination MAC.
- > Advance Setting (only available in CE2-HDMI-00):

Advance Settings 🕢			
Enable the second eth: 🕢			
IP Address	Subnet Mask	Default Gateway	MAC Address
192.168.131.45	255.255.255.0	192.168.131.254	A0:69:86:02:39:CE

The second eth is reserved for you to output IP streams in another different VLAN. You can output unicast streams to the another VLAN by enabling the second eth and setting *IP Address*, *Subnet Mask*, *Default Gateway* in the same segment of the unicast IP (the another different VLAN).

MI-R01		Stat	us Basic Setting Insertion	Output Syste
Dutput Multiplexing	RTMP Output			
Program Nan	ne	Destination	Destination Setting	Apply
Program-01			1	
Program-02			1	
Program-03			1	Clear Config
Program-04			1	
	MI-R01 Dutput Multiplexing Program-01 Program-02 Program-03 Program-04	MI-ROI Dutput Multiplexing RTMP Output Frogram-02 Program-03 Program-04 Multiplexing RTMP Output RTMP OU	MI-RO1 Multiplexing RTMP Output Multiplexing RTMP Output Program-01 Destination Program-02 I Program-03 I Program-04 I	MI-RO1 basic Setting Insertion Multiplexing RTMP Output Multiplexing RTMP Output Program-01 Forgram 0 Program-02 Image: Constraint of the setting of the sett

To use Multiplexing mode on service level

- 1. Click on the pencil icon
 . There will always be a Base Board selection for the IP output and other Output options depending on the modules inserted.
- 2. Select the correct Output and Channel you want to output the Service to.
- 3. Check Multiplex for the Channel you want to output through. You can output multiple services in the same channel or output the same service in multiple channels.

To use RTMP output to configure streaming to any website capable of receiving RTMP, it is necessary to create a new stream instance on the intended receiving platform and enter the corresponding URL and port.

CE2-HI	DMI-R01	1					Status	Basic Setting Insertion	Output Sy
Direct IP (Dutput	Multiplexing RTMP Output							
Program	Enable	FMS URL	Stream Na	Port	Encrypt	User Name	Password	Status	A
1		rtmp://172.16.1.254/live	live_stream0	1935	Disable 🔻	admin	admin	Connection Failed!	C.
2		rtmp://172.16.1.254/live	live_stream1	1935	Disable 💌	admin	admin	Connection Failed!	
3		rtmp://172.16.1.254/live	live_stream2	1935	Disable 🔻	admin	admin	Connection Failed!	
		dma://172.18.1.254/live	Live streem?	1025	Disable	admin	admin	Connection Eniled!	

CE2-HDMI-R01 >Insertion (only available in the CE2-HDMI-R01 module)

You should choose a program first before you set Insertion.

CE2-HDMI-R01	Status	Basic Setting	Insertior
Program1 2 3 4			

LOGO setting: you can upload several pictures at the same time, and pick one to show o n the screen. The feild of the selected picture will turn green.

Program1 2 3 4					
LOGO		QR Code		0	SD
Switch:	Enabl	le			
Position:	Х	0	Y	0	
Size:	Width	100	Heigh	ht 100	
Empty the uploade	ed pictures		Select	ed: Pic1	
Affred Factors Affred Factors					
Pic1	Pic2	Pic3	Pic4	Pic5	

LOGO Parameter	Range	LOGO Parameter	Range
Position X	0~1920 (Dual)	Position Y	0~1080 (Dual)
Size width	0~1920 (Dual)	Size Height	0~1080 (Dual)

> OSD setting:

LOGO		QR Code	OSD
Switch:	Enable		
Position:	Bottom	-	
Position Offset:	0	[-200~	200]
Horizontal Pixel:	1920		
Scrolling Speed:			
Font Color:	White	*	
Font Size:	20		
Display Interval:	3		
OSD:	Welcome!		

Subtitle Parameter	Range	LOGO Parameter	Range
Position	Bottom/Top/Middle	Position Offset	-200~200
Horizontal Pixel	10~1920	Scrolling Speed	1~20
Front Color	White/Black/Blue/Green/ Red/Yellow	Front Size	0~100
Display Interval	0~100		

> **QR Code setting**: QR Code picture picking method is same as LOGO setting.

Switch: Enable Position: X 600 Y 0 Size: Width 100 Height 100 Empty the uploaded pictures Image not selected Pic1 Pic2 Pic3 Pic4 Pic5 Pic6 Pic7 Pic8 Pic9 Pic10	LOGO		QR (Code		0	SD	
Position: X 600 Y 0 Size: Width 100 Height 100 Empty the uploaded pictures Image not selected Image not selected © Pic1 © Pic2 © Pic3 © Pic4 © Pic5 © Pic6 © Pic7 © Pic8 © Pic9 @ Pic10	Switch:	Enable						
Size: Width 100 Height 100 Empty the uploaded pictures Image not selected Pic1 OPic2 OPic3 OPic4 OPic5 Pic6 OPic7 OPic8 OPic9 OPic10	Position:	X 600			Y	0		
Empty the uploaded pictures Image not selected Image not selected </td <th>Size:</th> <td>Width 100</td> <td></td> <td></td> <td>Height</td> <td>100</td> <td></td> <td></td>	Size:	Width 100			Height	100		
	Empty the uploaded	pictures			Image n	ot selected		
 Pic1 Pic2 Pic3 Pic4 Pic5 Pic6 Pic7 Pic8 Pic9 Pic10 								-
Image: Pic1 Image: Pic2 Image: Pic3 Image: Pic4 Image: Pic5 Image: Pic6 Image: Pic7 Image: Pic8 Image: Pic9 Image: Pic10								
• Pic1 • Pic2 • Pic3 • Pic4 • Pic5 • Pic5 • Pic6 • Pic7 • Pic8 • Pic9 • Pic10 • Pic10								
• Pic6 • Pic8 • Pic9 • Pic10	Pic1	Pic2	Pic3	• Pic	:4	• Pic5		
Image: Pic6 Image: Pic7 Image: Pic8 Image: Pic9 Image: Pic10 Image: Pic10 <th></th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
 Pic6 Pic7 Pic8 Pic9 Pic10 								
O Pic6 O Pic7 O Pic8 O Pic9 O Pic10								
	Pic6 O	Pic7	Pic8	• Pic	:9	Pic10		

LOGO Parameter	Range	LOGO Parameter	Range
Position X	0~1920 (Dual)	Position Y	0~1080 (Dual)
Size width	0~1920 (Dual)	Size Height	0~1080 (Dual)

CE2-HDMI-00/R01 >System

Please refer to CR2-DVBC module.

5.2.2 CE2-HDMI-02

CE2-HDMI-02 is a 2-channel HDMI encoder which supports H.264 HD/SD or MPEG-2 HD/SD encoding with 2-channel RCA for CC input. The module supports MPEG1-L2, AAC and AC3 audio encoding.



CE2-HDMI-02 >Status

CE2-HI	DMI-02						Status	Basic Setting Output	System
HDCP tur	rned on.								
Program	Signal	HDCP Encryption	Input Video Resolution	Output Video Resolution	Video Bitrate(Mbps)	Audio Bitrate(Mbps)	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Ar
1	×	Unencrypted	No_Video	No_Video	0.000	0.000	0.000	0.000	
2	×	Unencrypted	No_Video	No_Video	0.000	0.000	0.000	0.000	

CE2-HDMI-02 >Basic Setting

CE2-HI	DMI-02											Status Basic Se	ting	Output	t
Basic Par	rameters Advance	d Parameters													
🌣 Advanc	ced Setting >														C
Program	Input Source Type	Video Reso	lution	Video Encoding Forma	t Video Bitrat	e(Kbps)	Video Aspect Ra	atio	GOP Size	Profile		Audio Encoding Forma	ıt		App
1	номі	Auto	1	H264 -	10000	0	Auto	•	18	High	•	AC3	•	192	
		1		Luca i	40000	•	Austra		40	1 Date		1.00			

Click **Basic Parameters** then click **Advanced Setting** to see **Video Parameters& Audio Parameters & Service Parameters** that you can modify and check what specific parameters you want to see and set. Click the **Apply** button on the right side to make the change take effect.

CE2-HDMI-02			Status	Basic Setting	Output	Sys
Basic Parameters Advanced Pa	arameters					
Advanced Setting 🗸					_ (
Video Parameter 🗌						Apply
✓Video Encoding Format	√ Video Resolution	✓Video Bitrate	Video Mode			
GOP Structure	GOP Size	Closed Caption	Profile			
Level	✓Video Aspect Ratio					
Audio Parameter 🗌						
Audio Source	Audio Encoding Format	AAC Format	✓Audio Bitrate			
✓Volume						
Service Parameter 🗹						
Video PID	Audio PID					
Program Name	Provider Name					

Setting Range:

Video Encode Settings	Range	Video Encode Settings	Range
Video Type	H264 , MPEG2	GOP Size	18~48
Video Bitrate (Kbps)	2000~18000	PCR2 PID	32~8190
Video Mode	CBR	PMT PID	32~8190
Video Max Bitrate (Kbps)	18000	Service Name	Length is 1~16
Video Min Bitrate (Kbps)	2000	Service Provider Name	Length is 1~16
СС	Enable Disable	Video PID	32~8190
Video PID	32~8190	Video Aspect Ratio	Auto
			16x9
			4x3
GOP Structure	IBBP, IPPP, IBP	P Frame	IBBP

P Frame: 5~15 IPPP

P Frame: 18~47

IBP

P Frame: 8~23

Audio Encode Settings	Range	Audio Encode Settings	Range
Audio Type	AC3	Volume	0~8
	AC3_Passthrough	AAC Format	ADTS
	MPEG1_Layer2		LATM
	MPEG2_AAC		
	MPEG4_AAC		
	AAC_HE_V2		
Audio Bitrate(Kbps)	128~384 (AC3)	Audio PID	32~8190
	64~384(MPEG1_Layer2/		
	MPEG2_AAC/		
	MPEG4_AAC/ AC3		
	Passthrough)		
	32~384(AAC_HE_V2)		

CE2-HDMI-02		Status Basic Setting Output Syste
Advanced Parameters Program1 Program2		
Encoding Parameters		~
Comb Dot Crawl Detect (0-100):	0	Apply
Comb Luma Motion (0-100):	0	
Comb Chroma Motion (0-100):	0	
Comb Response (0-100):	0	
Temporal Noise Luma Motion (0-100):	0	
Temporal Noise Chroma Motion (0-100):	0	
Spatial Noise Luma Edge (0-100):	0	
Spatial Noise Chroma Edge (0-100):	0	
Spatial Noise Strength (0-100):	0	
Filters:	COMB_FILTER_ONLY	•
Time Base Calibration:	Disable	•
Frame Field Coding:	Auto	▼
Low Latency (0-1000):	100	
Dvo Delay (0-1000):	0	
Dts Delay From Pcr (0-1000):	0	
Max Video PES Size (0-1000):	2	
Stream Output Parameters		^

Click Advance Parameters to set Encoding Parameters & Stream Output Parameters & MPEG-2 Output Parameters & MPEG4/MPEG4_AVC Output Parameters & Other Parameters for CH1.1/CH2.1 separately.

CE2-HDMI-02 module supports up to two channels of audio and video input. Each channel includes 1 HDMI port and 1 RCA port. It supports dual audio encoding per channel which means one audio track from HDMI input can be encoded into two different formats for output.

CE2-HDMI-02 >Output

2-HDMI-02					Status Basic Setting	Output Sys
ect IP Output	Multiplexing					
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC	Destination MAC	Apply
Program	Enable	Destination IP Address 227.10.20.90	Destination Port	Enable Destination MAC	Destination MAC 01:00:5E:0A:14:5A 	Apply

This feature is specifically for single program encoding and IP output directly. Outputting in this way will not occupy baseboard multicast bandwidth.

If you want to use IP output channels in the encoder module and the baseboard IP module at same time, you should avoid the multicast IP address conflict. If there are two same IP addresses enabled meantime, all the multicast videos will be affected.

- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional cases where the unicast stream cannot be received with unicast IP addresses. You can enable destination MAC and streaming out by setting Destination MAC.

To use Multiplexing mode at service level

- 1. Click on pencil icon *I*. There will always be a Base Board selection for the IP output and other Output options depending on the module inserted.
- 2. Select the correct Output and Channel you want to output the service to.
- 3. Check Multiplex on the channel you want to output to. You can output multiple services to one channel or output one service to multiple channels.

CE2-HDMI-02 > System

Please refer to CR2-DVBC/DTMB module.

5.2.3 CE2-HDMI-02C

CE2-HDMI-02C is a 2-channel HDMI or component HD encoder. It supports H.264 / MPEG-2 HD/SD, MPEG1L2, AAC (optional), AC3 (optional) audio, CC subtitle and analog audio input.



CE2-HDMI-02C>Status

CE2-HD	MI-02C							Status Basic	Setting O	utput System
HDCP tu	urned on									
Progr	Signal	HDCP Encry	Input Video Resolution	Output Video Resolu	Video Bitrate(Mb	Audio Bitrate(Mb	Total Bitrate(Mbps)	Effective Bitrate(Mb	TS Anal	Program Na
1	×	Unencrypted	No_Video	No_Video	0.000	0.000	0.000	0.000	۲	Program-1
2	×	Unencrypted	No_Video	No_Video	0.000	0.000	0.000	0.000	۲	Program-2

CE2-HDMI-02C>Basic Setting

062-111	5111-020						Statu	is Basic Set	ting Outp	put Syster
Basic Par	ameters A	dvanced P	arameters							
- Advanc	ed Setting 🔪									
🌣 Advanc	ed Setting >				1		1	1		Apply
Advanc Program	ed Setting >	е Туре	Video Reso	lution	Video Encoding Format	Video Bitrate(Kbps)	Video Aspect Ratio	GOP Size	Pro	Apply
Program	ed Setting > Input Source	e Type T	Video Reso	lution	Video Encoding Format	Video Bitrate(Kbps)	Video Aspect Ratio	GOP Size	Prc High	Apply

Click *Basic Settings* then click *Advance Settings* to see *Video Parameters & Audio Parameters & Service Parameters* where you can modify and check what specific parameters you want to see and set. Click the *Apply* button on the right side to make the change take effect.

/ideo Parameter 🗌				
Video Encoding Format	✓Video Resolution	Video Bitrate	Uideo Mode	
GOP Structure	GOP Size	Closed GOP	Closed Caption	
✓Profile	Level	✓Video Aspect Ratio		
Audio Parameter 🗆				
Audio Source	✓Audio Encoding Format	AAC Format	Audio Bitrate	
Volume				
Service Parameter 🗹				
✓Video PID	Audio PID			
Program Name	Provider Name			

Setting Range:

Video Encode Settings	Range	Video Encode Settings	Range
Video Type	H264 , H265	GOP Size	18~48
Input Source Type	HDMI, Component	Level	3.0, 3.1, 3.2,4.0,4.1,4.2
Video Bitrate (Kbps)	2000~18000	PCR PID	32~8190
Video Mode	CBR	PMT PID	32~8190
Video Max Bitrate (Kbps)	18000	Service Name	Length is 1~16
Video Min Bitrate (Kbps)	2000	Service Provider Name	Length is 1~16

Closed Caption	Enable	Video PID	32~8190
	Disable		
Video PID	32~8190	Video Aspect Ratio	Auto
			16x9
			4x3
GOP Structure	IBBP, IPPP, IBP	Profile	High, Main, Baseline

Audio Encode Settings	Range	Audio Encode Settings	Range
Audio Type	AC3	Volume	0~8
	MPEG1_Layer2	AAC Format	ADTS
	MPEG2_AAC		LATM
	MPEG4_AAC		
Audio Source 1	HDMI	Audio Source 2	HDMI
	Analog		Analog
Audio Bitrate(Kbps)	128~384 (AC3)	Audio PID	32~8190
	64~384(MPEG1_Layer2/		
	MPEG2_AAC/		
	MPEG4_AAC/ AC3		
	Passthrough)		
	32~384(AAC_HE_V2)		
Volume	-20~20		

CE2-HDMI-02C> Output

CE2-HDMI-02C						Status Basic Setting	Output	System
Direct IP Output	Multiplexing							
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC		Destination MAC		Apply
1	2	227.100.200.90	1234	Disable	Ŧ	01:00:5E:64:C8:5A		\bigcirc
2		227.10.20.90	1235	Disable	Ŧ	00:00:00:00:00:00		

This feature is specifically for single program encoding and IP output directly. Outputting in this way will not occupy baseboard multicast bandwidth.

۴		
	_	
	_	
	_	

If you want to use IP output channels in the encoder module and baseboard TSoIP module at same time, you should avoid a multicast IP address conflict. If there are two same IP addresses enabled meantime, all the multicast video will be affected.

- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional cases where the unicast stream cannot be received with unicast IP addresses, you can enable destination MAC and streaming out by setting Destination MAC.

CE2-HE	MI-02C	Status Basic Setting	Output System
Direct IP	Output Multiplexing		
Program	Program Name	Destination Destination Setting	Apply
1	Program-1	1	Clear
2	Program-2	1	Config

To use Multiplexing mode at service level:

- 1. Click on the pencil icon
 There will always be a Base Board selection for the IP output and other Output options depending on the module inserted.
- 2. Select the correct Output and Channel you want to output the service to.
- 3. Check Multiplex on the channel you want to output to. You can output multiple services to one channel or output one service to multiple channels.

CE2-HDMI-02C> System

Please refer to CR2-DVBC/DTMB module.

5.2.4 CE2-HDMI-06B

4CH HDMI HD encoding board (broadcast grade), support H.264 HD/SD, support B frame, MPEG1L2 (support), AAC (optional), AC3 (optional).



CE2-HDMI-06B>Status

Status page for CE2-HDMI-06B shows the following parameters: **Program, Signal, HDCP Encryption, Input Video Resolution, Output Video Resolution, Total Bitrate, Effective Bitrate, TS analysis** and **Program Name**. The following parameters will display values once a good HDMI source is connected.

CE2-HDM	MI-06B					Status	Basic Setting	Output System				
HDCP turned on.												
Program	Signal	HDCP Encryption	Input Video Resolution	Output Video Resolution	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Program Name				
1	~	Unencrypted	1920×1080_59.94p	1920x1080_30p	8.548	8.548	۲	Program-01 8				
2	~	Unencrypted	1920×1080_59.94p	1920x1080_30p	8.559	8.559	۲	Program-02 6				
3	~	Unencrypted	1920×1080_59.94p	1920x1080_30p	8.548	8.548	۲	Program-03 0				
4	1	Unencrypted	1920×1080_59.94p	1920x1080_30p	8.559	8.559	۲	Program-04 0				

CE2-HDMI-06B>Basic Setting

🗘 Advanc	ed Setting >									
Program	Video Encoding Format	Video Bitrate(Kbps)	Audio Encoding Format	Audio Bitrate(Kbps)	Audio Sampling	Volume(dB)	Delay(ms)	Audio PID	s	
1	H.264 💌	3000	MPEG1_Layer2	128 💌	48 💌	0	0	103	Disat	Apply
2	H.264 💌	8000	MPEG1_Layer2	128 👻	48 👻	0	0	203	Disat	
3	H.264 💌	8000	MPEG1_Layer2	128 💌	48 💌	0	0	303	Disat	
4	H.264 👻	8000	MPEG1_Layer2 -	128 🗸	48 🗸	0	0	403	Disat	

Click *Basic Settings* then click *Advance Settings* to see *Video Parameters & Audio Parameters & Service Parameters* where you can modify and check what specific parameters you want to see and set. Click the *Apply* button on the right side to make the change take effect.

Advanc	ed Setting 🗸											
Video	Parameter 🗌											C
✓Video Encoding Format		⊘ Video Bitra	✓Video Bitrate		□Video Mode		GOP Structure		Smooth Output			C
Audio	Parameter 🔽											
Aud	io Encoding Format	✓Delay			Audio Bitr	rate	∠ Audio Sampling Rate		Volume			
Servic	e Parameter 🔽											
361 110	✓Program Name ✓Video PID				✓Audio PID					PMT PID		
✓Proj	gram Name vider Name	Video PID		•	Audio PID)	PCR PID		PMT PID			
✓Pro	gram Name vider Name	Video PID		Audio Encodior For	Audio PID) die Ditrato/(/hana)	PCR PID	Volume(dD)	✓PMT PID	Audia DID		
✓Proy ✓Proy ✓Proy Ogram	gram Name vider Name Video Encoding Format	Video Bitrate(Kt	ops)	Audio Encoding For	Audio PID) Idio Bitrate(Kbps)	PCR PID Audio Sampling	. Volume(dB)	✓PMT PID Delay(ms)	Audio PID	S	
✓Prov ✓Prov ogram 1	gram Name vider Name Video Encoding Format H 264	Video Bitrate(Kk	ops) Ø	Audio Encoding Form	Audio PID nat Au 128) Idio Bitrate(Kbps)	PCR PID Audio Sampling 48	Volume(dB)	<pre>✓PMT PID</pre> Delay(ms)	Audio PID	S	
<pre>vervec vervec verv</pre>	gram Name vider Name	Video Bitrate(Kt	ops) Ø	Audio Encoding Form MPEG1_Layer2 MPEG1_Layer2	Audio PID nat Au 128 128) Idio Bitrate(Kbps) ¥	Audio Sampling	Volume(dB)		Audio PID 103 203	S Disat Disat	
<pre>verve</pre> verve	gram Name vider Name Video Encoding Format H 264 • H 264 • H 264 •	Video Bitrate(Kt 3000 8000 8000	ops) 0 0 0	Audio Encoding Form MPEG1_Layer2 MPEG1_Layer2 MPEG1_Layer2 MPEG1_Layer2	Audio PID nat Au 128 128 128 128) Idio Bitrate(Kbps) T	Audio Sampling 48 • 48 •	Volume(dB) 0 0 0 0		Audio PID 103 203 303	S Disat Disat	

Setting Range:

Video Encode Settings	Range	Name	Range
Input TS Source	HDMI		
Video Type	H264 , H.264	Smooth output	Enable/Disable
Video Bitrate (Kbps)	2000~18000	PCR PID	32~8190
Video Mode	CBR	PMT PID	32~8190
Video Max Bitrate (Kbps)	18000	Service Name	Length is 1~16
Video Min Bitrate (Kbps)	2000	Service Provider Name	Length is 1~16
Video PID	32~8190		
GOP Structure	IBBP, IPPP		
Audio Encode Settings	Range	Audio Encode Settings	Range
-----------------------	--------------	-----------------------	-------------------
Input Source Type	HDMI	Audio Bit Rate(Kbps)	128~384 (AC3)
			64~384(MPEG1_Lay
Audio Type	AC3		er2/MPEG2_AAC/
	MPEG1_Layer2		AC3_Passthrough/
	AAC		MPEG4_AAC)
Audio Sampling Rate	48		32~384(AAC_HE_V2)
	Auto	Delay (ms)	-2000~2000
Volume	-20~20	Audio PID	32~8190

CE2-HDMI-06B> Output

CE2-HDMI-06	3					Status Basic Setting	Output Syste
Direct IP Output	Multiplexing						
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC		Destination MAC	Apply
1		227.10.20.80	1111	Disable	-	01:00:5E:0A:14:50	
2		227.10.20.90	1235	Disable	Ŧ	01:00:5E:0A:14:5A	
3		227.10.20.90	1236	Disable	Ŧ	01:00:5E:0A:14:5A	
4		227.10.20.90	1237	Disable	Ŧ	01:00:5E:0A:14:5A	

This feature is specifically for single program encoding and IP output directly. Outputting in this way will not occupy baseboard multicast bandwidth.

If you want to use IP output channels in the encoder module and baseboard TSoIP module at same time, you should avoid a multicast IP address conflict. If there are two same IP addresses enabled meantime, all the multicast video will be affected.

- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional cases where the unicast stream cannot be received with unicast IP addresses, you can enable destination MAC and streaming out by setting Destination MAC.

CE2-H	E2-HDMI-06B Status Basic Setting C						
Direct IP (Dutput Multiplexing						
Program	Program Name	Destination	Destination Setting				
1	Program-01	17.Baseboard[1.1]					
2	Program-02		1				
3	Program-03		Clear Config				

To use Multiplexing mode at service level:

- 4. Click on the pencil icon
 There will always be a Base Board selection for the IP output and other Output options depending on the module inserted.
- 5. Select the correct Output and Channel you want to output the service to.
- 6. Check Multiplex on the channel you want to output to. You can output multiple services to one channel or output one service to multiple channels.

CE2-HDMI-06B> System

Please refer to CR2-DVBC/DTMB module.

5.2.5 CE2-SDI-01

CE2-SDI-01 module supports 2-channel SDI HD encoding board, support H.264/MPEG-2 HD/SD, MPEG1L2 (support), AAC (support), AC3 (support), support CC subtitles



CE2-SDI-01>Status

Status page for CE2-SDI-00 shows the following parameters: *Program, Signal, Input Video Resolution, Output Video Resolution, Video Bitrate, Audio Bitrate, Total Bitrate, Effective Bitrate, TS analysis* and *Program Name*. The following parameters will display values once a good SDI source is connected.

CE2-SI	CE2-SDI-01 Status Basic Setting O							
Program	Signal	Input Video Resolution	Output Video Resolution	Video Bitrate(Mbps)	Audio Bitrate(Mbps)	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	
1	1	1920x1080_50i	1920x1080_50i	9.597	0.248	9.771	9.845	
2	×	No_Video	No_Video	0.000	0.000	0.000	0.000	
4							•	

CE2-SDI-01 >Basic Setting

CE2-SDI-01		Status Basic	Setting Output	System
Basic Parameters Advar	nced Parameters			
Advanced Setting >				
Program	Video Encoding Format	Video Bitrate(Kbps)		Apply
1	MPEG2	10000	0	
2	MPEG2	10000	0	

Click **Basic Parameters** then click **Advanced Setting** to see **Video Parameters& Audio Parameters & Service Parameters where** you can modify and check what specific parameters you want to see and set. Click the **Apply** button on the right side to make the change take effect.

CE2-SDI-01			Status Basic Set	ing Output System
Basic Parameters Advanced P	arameters			
Advanced Setting V				Apply
Video Parameter 🗌				
Video Encoding Format	Video Resolution	Video Bitrate	□Video Mode	
GOP Structure	GOP Size	Closed GOP	Closed Caption	
Profile	Level	□Video Aspect Ratio	Smooth Output	
Audio Parameter 🗆				
Audio Source	Audio Encoding Format	AAC Format	Audio Bitrate	
Volume				
Service Parameter				
Video PID	Audio PID		PMT PID	
Program Name	Provider Name			
Dragram	Video Encoding Format		Video Bitrato/Khao)	
Program	Video Encoding Format		video bidate(Kbps)	
1	MPEGZ	♥ 10000		Ø
2	MPEG2	▼ 10000		0

Setting Range

Video Encode Settings	Range	Video Encode Settings	Range
Input Source Type	CVBS, SDI	GOP Size	18~48
Video Type	H264 , MPEG2	PCR2 PID	32~8190
Video Bit Rate (Kbp s)	2000~18000	PMT PID	32~8190
Video Mode	CBR	Program Name	Length is 1~31
сс	Disable, Enable	Provider Name	Length is 0~31
Video PID	32~8190	Video Aspect Ratio	Auto
			16x9
			4x3
GOP Structure	IPPB, IPPP, IBP	P Frame	IBBP
			P Frame: 5~15 IPPP
			P Frame: 18~47 IBP

P Frame: 8~23

Audio Encode Settings	Range	Audio Encode Settings	Range
Input Source Type	SDI	Audio Bit Rate(Kbps)	128~384 (AC3)
	CVBS		64~384(MPEG1_Lay
Audio Source	SDI1(2/3/4)		er2/MPEG2_AAC/
	Analog		AC3_Passthrough)
Audio Type	AC3		16~384(MPEG4_AA
	AC3_Passthrough	Audio AAC Format	C)
	MPEG1_Layer2		ADTS
	MPEG2_AAC		LATM
	MPEG4_AAC		
Volume	-20~20	Audio PID	32~8190

CE2-SDI-01	Status Basic Setting Output Syste
Basic Parameters Advanced Parameters	
Program1 Program2	Appl
Encoding Parameters	
Stream Output Parameters	▲ _
MPEG-2 Output Parameters	^
MPEG4/MPEG4_AVC Output Parameters	~ -
Other Parameters	^

Click Advance Parameters to set Encoding Parameters & Stream Output Parameters & MPEG-2 Output Parameters & MPEG4/MPEG4_AVC Output Parameters & Other Parameters for CH1.1/CH2.1 separately.

CE2-SDI-01>Output

CE2-SDI-01					Status Basic Setting	Output System
Direct IP Output	Multiplexing					
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC	Destination MAC	Apply
1		227.10.20.90	1234	Disable	• 01:00:5E:0A:14:5A	
2	0	227.10.20.90	1235	Disable	- 00:00:00:00:00)

This feature is specifically for single program encoding and IP output directly. Outputting in this way will not occupied baseboard multicast bandwidth.

If you want to use IP output channel in the encoder module and baseboard TSoIP module at same time, you should avoid a multicast IP address conflict. If there are two same IP addresses enabled meantime, all the multicast videos will be affected.

- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional case when the unicast stream cannot be received by using unicast IP addresses, you can enable destination MAC and streaming out by setting Destination MAC.

To use **Multiplexing mode at service level**:

- 1. Click on the pencil icon
 There will always be a Base Board selection for the IP output and other Output options depending on the module inserted.
- 2. Select the correct Output and Channel you want to output the service to.
- 3. Check Multiplex on the channel you want to output to. You can output multiple services to one channel or output one service to multiple channels.

The second eth is reserved to output IP streams in another different VLAN. Enabling the second eth and set **IP Address**, **Subnet Mask**, **Default Gateway** in the same segment of the Unicast IP (the another different VLAN), you can output the Unicast stream to the another VLAN.

CE-SDI-01 >System

CE2-S	DI-01			Status	Basic Setting	Output System
License						
	Product ID					
	Import License			Browse Upload		
	Export License	Export				
	в					
	Export MIB	Export				
Logs						
	Open					
Others						
	Reboot	Reset to				
		Leiduis.				

5.2.6 CE2-CVBS-00

CE2-CVBS-00 is a 6-channel CVBS encoder with 2 DB15 connectors each for 3 channels. It supports H.264/MPEG-2 SD encoding and MPEG1-L2, AAC (optional) and AC3(optional) audio.



CE2-CVBS-00

Configuration is similar to CE2-HDMI module. Please refer to that module section.

CE2-CVBS-00 >Settings

CE2-CV	CE2-CVBS-00 Status						Output System
Program	Video Resolution	Video Bitrate(Mbps)	Audio Bitrate(Mbps)	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Program Name
1	No_Video	0.000	0.000	0.000	0.000	۲	Program-1 🚯
2	No_Video	0.000	0.000	0.000	0.000	۲	Program-2 🕄
3	No_Video	0.000	0.000	0.000	0.000	۲	Program-3 🕄
4	No_Video	0.000	0.000	0.000	0.000	۲	Program-4
5	No_Video	0.000	0.000	0.000	0.000	۲	Program-5
6	No_Video	0.000	0.000	0.000	0.000	۲	Program-6 🚯

Click *Advanced Setting* to see all parameters you can modify and check what specific parameters you want to see and set. Click the *Apply* button on the right side to make the change take effect.

Inced Setting >				
Program	Video Encoding Format		Video Bitrate	1
1	H264	•	5000	(
2	H264	•	2000	
3	H264	•	2000	
4	H264	•	5000	
5	H264	•	5000	
6	H264	•	5000	

Setting range:

Video Encode Settings	Range	Video Encode Settings	Range
Video Type	H264 , MPEG2	Service Name	Length is 1~16
Video Bitrate (Kbps)	600~20000	Service Provider Name	Length is 1~16
Video Mode	CBR, VBR	Brightness	0~255
Video Max Bitrate (Kbps)	0	Contrast	0~255
Video Min Bitrate (Kbps)	20000	Saturation	0~255
Video PID	32~8190	Hue	-180~180
GOP Structure	IPPB, IPPP, IBP	VLC Mode	CABAC
			CAVLC

GOP Size	6~63	Profile	HIGH / MAIN (H.264) MAIN (MPEG-2)
GOP Close	Disable, Enable	Level	3.0,3.1,3.2
PCR2 PID	32~8190	Video Aspect Ratio	Auto
			16x9_LetterBox
			16x9_CutOff
			4x3_PillarBox
			4x3_CutOff
PMT PID	32~8190		

Audio Encoder Details	Range	Audio Encoder Details	Range
Encoding Type	MPEG1_Layer2	Audio Sampling Bitrate(KHz)	48
Audio Mode (AC3)	Dual Channel/Mono/ Stereo	Audio PID	32~8190
Encoding Bitrate(Kbps)	64~384	Volume Setting	0.00~8.00

CE2-CVBS-00 > Output/ Insertion

Output and Insertion please refer to CE2-HDMI-R01 module.

CE2-CVBS-00 > System

Please refer to CR2-DVBC module.

5.2.7 CE2-HDMI-R05/R05A

CE2-HDMI-R05/R05A is a 4/8-channel HDMI high-definition encoding board (commercial level), supports H.264/H.265 HD/SD (supports up to 1080p60 input for R05 and 1080p30 for 05), MPEG1L2 (support), AC3 (optional), AAC (optional), supports superimposed OSD subtitles, Logo, QR code.



CE2-HDMI-R05>Status

CE2-HL	DMI-R05	;				Status Basic Setting I	nsertion Out	put System
HDCP tur	med off.							×
Program	Signal	HDCP Encryption	Input Video Resolution	Output Video Resolution	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Program Name
1	~	Unencrypted	1920x1080_50i	1920x1080_25p	8.938	8.938	۲	Program-01 0
	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-02
2								
2 3	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-03

CE2-HDMI-R05 >Basic Setting

Advance	ed Setting >									
rogram	Video Encoding Format	Video Bitrate(Kbp	s)	Video Resolution	GOP Size	Profile	Video Aspect Rati	io A	udio Encoding Form	at
1	H.264 💌	8000	0	Auto 🎤	25	Main 🝷	Automatic	•	IPEG1_Layer2	- I (
2	(H.264 💌	8000	0	Auto 🥒	25	Main 🝷	Automatic	• N	IPEG1_Layer2	-
3	H.264 💌	8000	0	Auto 🖌	25	Main 👻	Automatic	• N	IPEG1_Layer2	•
4	H.264 -	8000	0	Auto 🥒	25	Main 👻	Automatic	- N	IPEG1_Layer2	-

This page allows you to modify the Video, Audio and Service Parameters. Click *Advanced Setting* to see all parameters you can modify and check what specific parameters you want to set and see. Click the *Apply* button on the right side to make the change take effect.

E2-HDMI-R05					Status	Basic Setting	Insertion	Output	System
Advanced Setting 🛩									
Video Parameter 🗹									Apply
Video Encoding Format	Video Bitrate		GOP Size		Profile				C
Video Resolution					Video	Aspect Ratio			
Audio Parameter 🔽									
Audio Encoding Format	Delay	ZAudio Bitrate		Audio Sampling Rate		Volume			
Service Parameter 🗹									
Program Name	Video PID	Audio PID		PCR PID					
Provider Name									
Shelter Parameter									
□x	ΩY	Width		Height		Color			
Shelter									

Name	Range	Name	Range
Video Type	H.264 , H.265	Video PID	32~8190
Video Bitrate (Kbps)	600~12000	PCR2 PID	32~8190
GOP Size	1~60	PMT PID	32~8190
Video Resolution	Auto ,	Program Name	Length is 1~31
	Manual (Horizontal		
	Pixels: 160~1920, Vertical		
	Pixels: 120~1080,		
	Framerate: 24~60, Scan		
	Type: Progressive)		
Video Aspect Ratio	Automatic , 16×9 (SD) ,	Provider Name	Length is 0~31
	4x3 (SD)		
Profile	MAIN		
	HIGH		

Click Service Info in the line of Audio Encoding to set audio encoding.

Audio Encoder Details	Range	Audio Encoder Details	Range

Audio Enable	Enable/Disable	Delay(ms)	-2000~2000
Audio Type	MPEG1_Layer2	Audio Bitrate(Kbps)	32~192(MPEG1_Lay
	AAC		er2) 32~192(AAC)
	AC3		96~192 (AC3)
Volume(dB)	-20~20	Audio PID	32~8190

Shelter Parameters	Range	Shelter Parameters	Range
Shelter	Enable/Disable	X	0~1920 (Dual)
Y	0~1080 (Dual)	Width	2~1920 (Dual)
Height	2~1080 (Dual)	Color	White/Black/Blue/Green/Red

CE2-HDMI-R05 >Output

CE2-HDMI-R0	5				Stat	us Basic Setting Insertion	Output	System
Direct IP Output	Multiplexing	l.						
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC	Ĩ	Destination MAC		Apply
1		227.10.20.90	1234	Disable	• 00:	:00:00:00:00		C
2		227.10.20.90	1235	Disable	• 00	00:00:00:00:00		
3		227.10.20.90	1236	Disable	• 00	00:00:00:00		
4		227.10.20.90	1237	Disable	- 00	00:00:00:00:00		

This feature is specifically for single program encoding and IP output directly. Outputting in this way will not occupy baseboard multicast bandwidth.

If you want to use IP output channel in the encoder module and baseboard IP Output module at same time, you should avoid the multicast IP address conflict. If there are two same IP addresses enabled meantime, all the multicast videos will be affected.

- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional cases where the unicast stream cannot be received with unicast IP addresses You can enable destination MAC and streaming out by setting Destination MAC.

CE2-HDMI-R05 >Insertion

You should choose a program first before you set Insertion.

CE2-HDMI-R05			Status Basic Setting Insertion
Program1 2 3 4 5 6 7	8		
LOGO	QR Code	OSD	Preview(No real resolution, just for visual review)

You can preview the effect or make adjustment after you set Insertion.



LOGO setting: you can upload several pictures at the same time, and pick one to show on the screen The field of the selected picture will turn green.

CE2-HDMI-R05			Status Basic Setting Insertion Output System
rogram1 2 3 4			
LOGO	QR Code	OSD	Preview(No real resolution, just for visual review)
Switch: Enable			Reference Output Video Resolution: 1280'720
Position: X 0	Y	0	
Size: Width 100	Height	100	
Empty the uploaded pictures	Selected	: Pic1	
Pic1 Pic2	Pic3 Pic4	• Pic5	Tip: 📃 Logo 📃 QR Code 📃 OSD

LOGO Parameter	Range	LOGO Parameter	Range
Position X	0~1920 (Dual)	Position Y	0~1080 (Dual)
Size width	2~1920 (Dual)	Size Height	2~1080 (Dual)

> OSD setting:

CE2-HDMI-R05		
Program1 2 3 4		
LOGO	QR Code	OSD
Switch:	Enable	
Position:	Bottom	
Position Offset:	0	[-200~200]
Horizontal Pixel:	1920	
Scrolling Speed:	1	
Font Color:	White	
Font Size:	20	
Background Color:		
Dauxground transparency:	Welcome!	
005.		

Subtitle Parameter	Range	LOGO Parameter	Range
Position	Bottom/Top/Middle	Position Offset	-200~200
Horizontal Pixel	10~1920	Scrolling Speed	1~20
Front Color	White/Black/Blue/Green/ Red/Yellow	Front Size	0~100

> **QR Code setting**: QR Code picture picking method is same as LOGO setting.

Program1 2 3 4 LOGO QR Code OSD Preview(No real resolution, just for visual review)	Apply
LOGO QR Code OSD Preview(No real resolution, just for visual review)	Apply
Switch: Enable Reference Output Video Resolution: 1280*720	-
Position: X 600 Y 0	
Size: Width 100 Height 100	
Empty the uploaded pictures Image not selected	
Image: Pic1 Image: Pic2 Image: Pic3 Image: Pic4 Image: Pic5 Tip: Logo Logo	QR Code 📃 OSD

QR Code Parameter	Range	QR Code Parameter	Range
Position X	0~1920 (Dual)	Position Y	0~1080 (Dual)
Size width	0~1920 (Dual)	Size Height	0~1080 (Dual)

CE2-HDMI-05A >Output

Output configuration please refer to CR2-DVBC module.

CE2-HDMI-05A > System

CE2-HDMI-R05		Status Basic Setting Insertion Output System
License		
Product ID		
Import License		Browse Upload
Export License	Export	
SNMP MIB		
Export MIB	Export	
Logs		
Open		
Others		
Reboot	Reset to Defaults	

On **System** page you can **Import/Export License**, **Reboot** module, **Reset to Defaults** and Manage **Logs**.

5.2.8 CE2-HDMI-06

CE2-HDMI-06 is a 4-channel HDMI high-definition encoding board (broadcast level), support H.264/H.265 HD/SD, support B frame, MPEG1L2 (support), AAC (optional), AC3 (optional), support superimposed OSD subtitles, logo, two-dimensional Code.



CE2-HDMI-06>Status

CE2-HD	MI-06					Status Basic Setting	Insertion (Dutput System
HDCP tur	ned on							
Program	Signal	HDCP Encryption	Input Video Resolution	Output Video Resolution	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Program Name
1	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-01
2	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-02
3	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-03
4	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-04

CE2-HDMI-06>Basic Setting

CE2-HDMI-06			Status	Basic Setting	Insertion	Output	System
Advanced Setting >							
Program	Video Encoding Format		Video Bitra	ate(Kbps)			\bigcap
1	H.264	•	12000		Θ		Apply
2	H.264 H.265		12000		0		
3	H.264	Ψ	12000		0		
4	(H.264	•	12000		0		
DCP Test Mode : ON	HDCP test mode is for test purposes only. Please make s	sure you have the	right to use the content!			1	

This page allows you to modify the Video, Audio and Service Parameters. Click *Advanced Setting* to see all parameters you can modify and check what specific parameters you want to see and set. Click the *Apply* button on the right side to make the change take effect.

E2-HDMI-06				Status Basic Setting Insertio	on Output Syste
Advanced Setting V					
Video Parameter 🗌					Apply
✓Video Encoding Format	✓Video Bitrate	Uideo Mode	GOP Structure	Smooth Output	, which
Audio Parameter 🗹					
Audio Encoding Format	✓Delay	Audio Bitrate	Audio Sampling Rate	Volume	
Service Parameter 🗹					
✓Program Name	✓Video PID	Audio PID		PMT PID	
Provider Name					
Shelter Parameter 🗹					
✓x	₩Y	Width	✓Height	Color	
Shelter					

Name	Range	Name	Range
Video Type	H.264 , H.265	Video PID	32~8190
Video Bitrate (Kbps)	600~12000	PCR2 PID	32~8190
GOP Size	1~60	PMT PID	32~8190
Video Resolution	Auto ,	Program Name	Length is 1~31
	Manual (Horizontal		
	Pixels: 160~1920, Vertical		
	Pixels: 120~1080,		
	Framerate: 24~60, Scan		
	Type: Progressive)		
Video Aspect Ratio	Automatic , 16×9 (SD) ,	Provider Name	Length is 0~31
	4x3 (SD)		
Profile	MAIN	Smooth Output	Enable, Disable
	HIGH		

Audio Encoder Details	Range	Audio Encoder Details	Range
Audio Enable	Enable/Disable	Delay(ms)	-2000~2000
Audio Type	MPEG1_Layer2	Audio Bitrate(Kbps)	32~192(MPEG1_Lay
	AAC		er2) 32~192(AAC)
	AC3		96~192 (AC3)
Volume(dB)	-20~20	Audio PID	32~8190

Shelter Parameters	Range	Shelter Parameters	Range
Shelter	Enable/Disable	X	0~1920 (Dual)
Y	0~1080 (Dual)	Width	2~1920 (Dual)
Height	2~1080 (Dual)	Color	White/Black/Blue/Green/Red

CE2-HDMI-06>Output

CE2-HDMI-06					Status Basic Setting Insertion	Output System
Direct IP Output	Multiplexing					
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC	Destination MAC	Apply
1		227.10.20.94	1234	Enable	01:00:5E:0A:14:5E	
2		227.10.20.94	1235	Enable	01:00:5E:0A:14:5E	
3		227.10.20.94	1236	Disable	01:00:5E:0A:14:5E	
4		227.10.20.94	1237	Disable	01:00:5E:0A:14:5E]

This feature is specifically for single program encoding and IP output directly. Outputting this way will not occupy baseboard multicast bandwidth.

If you want to use IP output channels in the encoder module and baseboard IP Output module at same time, you should avoid a multicast IP address conflict. If there are two same IP addresses enabled meantime, all the multicast videos will be affected.

- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional cases where the unicast stream cannot be received with unicast IP addresses you can enable destination MAC and streaming out by setting Destination MAC.

CE2-HD	MI-06	Status Bas	ic Setting Insertion	Output Syster
Direct IP	Output Multiplexing			
Program	Program Name	Destination	Destination Setting	Apply
1	Program-01	15.[1.1]	/	<u> </u>
2	Program-02		/	Class
3	Program-03		1	Confi
4	Program-04		1	

To use Multiplexing mode at service level:

- 1. Click on ✓ (pencil) icon. There will always be a Base Board selection for the IP output and other Output options depending on the module inserted.
- 2. Select the correct Output and Channel you want to output the service to.

Check Multiplex on the channel you want to output to. You can output multiple services to one channel or output one service to multiple channels.

CE2-HDMI-06>Insertion

You should choose program first before you set Insertion.

CE2-HDMI-06			Status	Basic Setting Insertion	Output	System
Program1 2 3 4						
LOGO	QR Code	OSD	Preview(No real resolution, just for visu	al review)		Apply

You can preview the effect or make adjustment after you set Insertion.



LOGO setting: you can upload several pictures at the same time, and pick one to show on the screen. Click the box in the picture to choose it.

LOGO		QR Code		OSD
Enable:	Yes	® No		
Position:	X	0) Y	0
Size:	Width	100	Heigl	ht 100
Logo Selection:	Image	not selected 🔻		
• Upload	💼 Del	ete Selected Pictures	💼 De	lete All Pictures
Pic1				

LOGO Parameter	Range	LOGO Parameter	Range
Position X	0~1920 (Dual)	Position Y	0~1080 (Dual)
Size width	2~1920 (Dual)	Size Height	2~1080 (Dual)

> OSD setting:

CE2-HDMI-06			
Program1 2 3 4			
LOGO	QR Co	de	OSD
Enable:	®Yes ○No		
Position:	X 0	Y 0	
Horizontal Pixel:	960	[0-960]	
Font Color:	White	•	
Font Size:	20		
Subtitle:	Welcome to Encoder		
	[0~1024]		

Subtitle Parameter	Range	LOGO Parameter	Range
Horizontal Pixel	10~1920	Scrolling Speed	1~20
Front Color	White/Black/Blue/Green/ Red/Yellow	Front Size	0~100

> **QR Code setting**: QR Code picture picking method is same as LOGO setting.

CE2-HDMI-06		
Program1 2 3 4		
LOGO	QR Code	OSD
Enable:	• Yes O No	
Position:	X 600	Y 0
Size:	Width 100	Height 100
QR Code Selection:	Image not selected	
• Upload	Delete Selected Pictures	Delete All Pictures
Fic1		

QR Code Parameter	Range	QR Code Parameter	Range
Position X	0~1920 (Dual)	Position Y	0~1080 (Dual)
Size width	0~1920 (Dual)	Size Height	0~1080 (Dual)

CE2-HDMI-06> System

CE2-HDMI-06		Status	Basic Setting	Insertion	Output	Sys
icense						
Product ID	EB13146190100					
Import License		Browse	Ipload			
Export License	Export					
NMP MIB						
Export MIB	Export					
ogs						
Open						
Others						
Reboot	Reset to Defaults					

On the **System** page you can **Import/Export License**, **Reboot** module, **Reset to Defaults** and **Manage Logs**.

5.3 Modulation Output modules

5.3.1 CM2-QAMA-R00

> CM2-QAMA-R00

CM2-QAMA-R00 module supports modulating 16 non-adjacent or channels with 1 RF female port for modulating output and 1 RJ45 network port is reserved for future use. QAMA and B share the same Hardware but Different Software. If you need to change the Module from A to B, please contact your local support for assistance.



Module configuration is similar to IP Setting.

CM2-QAMA-00 >Basic Setting

This page is where you can modify or set the frequency for the RF modulation. CM2-QAMA-00 has 16 non-adjacent channels while CM2-QAMA-R01 has 4 adjacent channels both at single port.

RF Level:	36	(dBmV () dBuV () PSI/SI	Interval(ms): 100				
Channel	Enable	QAM Mode	Frequency(KHz)	Bandwidth(MHz)	Constellation	SymbolRate(KBaud)	
1.1		ANNEX A	200000	8	QAM64 🗸	6875	Appl
1.2		ANNEX A	208000	8	QAM64 💌	6875	
1.3		ANNEX A	216000	8	QAM64 👻	6875	
1.4		ANNEX A	224000	8	QAM64	6875	
1.5		ANNEX A	232000	8	QAM64 💌	6875	
1.6		ANNEX A	240000	8	QAM64 💌	6875	
1.7		ANNEX A	248000	8 💌	QAM64 👻	6875	
1.8		ANNEX A	256000	8	QAM64	6875	
1.9		ANNEX A	264000	8	QAM64 🗸	6875	
1.10		ANNEX A	272000	8 🔻	QAM64 👻	6875	
1.11		ANNEX A	280000	8	QAM64 👻	6875	
1.12		ANNEX A	288000	8	QAM64	6875	
1.13		ANNEX A	296000	8	QAM64	6875	
1.14		ANNEX A	304000	8	QAM64	6875	
1.15		ANNEX A	312000	8 💌	QAM64 👻	6875	
1.16		ANNEX A	320000	8	QAM64	6875	

Click the Apply button on the right side to make the change take effect.

Name	Range	Name	Range
Bandwidth	6M, 7M, 8M	RF level	0~63 (dB μ V)
			60~123 (dBmV)
Symbol Rate (KBaud)	4400~6956	Frequency (KHz)	48000~858000
		Constellation	QAM16/32/64/128/256

CM2-QAMA-00 >Output

QAM Output will be different from the Receiver and Encoder module. Since the QAM module is an output module like IP output, all services configured in receiver, encoder and IP input will be seen here.

- > TS setting: Please refer to IP output service configuration.
- LCN setting: You need to add NIT streams of all frequencies in the base TS (frequency), which is used for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency).Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).

• Click +*Descriptor* then LCN Descriptor to check all the programs which are contained in this frequency. Then set programs LCN.

	(Import	Export Clea
Fag: 0x 40	D	Network Name: 0	Ad	dd	
	Tag	Data	Length	Operation	
	010	0	4	~	
Stream	0X40	0	1	•	
Stream Driginal Ne	etwork ID: 0	TS ID:	0	Add	
Stream Driginal No ONID	etwork ID: 0 TS ID	TS ID:	0 0	Add Operation	

		Logical Ch	annel Number	Add	
TS	Service ID	Service Name	LCN [0, 1023]	Visible Service Flag	
1.1	32	Program3	1	Visible 👻	
1.2	32	Program3	2	Visible	

		Ser	vice L	ist Add			
TS	Service ID	Service Na	ame	Service 1	јуре		
1.1	32	Program	3	Digital Radio Sou	nd Sen ×		
1.2	32	Program	3	Digital Radio Sou	nd Sen ×		
Satellite I Frequency(MHz) Symbol Rate(Ksymbol/s) Polarization			4740 0 Linea	ooo	n [480 [0,99	00,858000] 99000]	
				Ad	vanced Pa	arameters 🗸	
Terrestrial Delivery System							
	Centre F	requency	1	[1, 42	294967295	5](10Hz)	
	E	Bandwidth	8MHz			•	
				Adv	anced Pa	rameters 🗸	

 Click +Descriptor and add the Cable Descriptor in. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency). Then click OK. (this operation should be set on Modulator module only).

Frequency(KHz)	474000	[48000,858000]
Symbol Rate(Ksymbol/s)	0	[0,999000]
Modulation	16-QAM	•
FEC Outer	not defined	•
FEC Inner	not defined	•

• Do same operations to add next TS (frequency) until NIT streams of all the frequencies have been included. At last click Apply button to let all configuration take effect. Then searching programs in your STB, you will get all programs in order of LCN which you set.

CM2-QAMA-R00> System

CM2-QAMA-00		Status Basic Setting Output PSIP System
Icense		
Product ID		
Import License		Browse Upload
Export License	Export	
SNMP MIB		
Export MIB	Export	
ogs		
Open		
Others		
	Reboot Reset to Defaults	

On the **System** page you can **Import/Export License**, **Reboot** module, **Reset to Defaults** and **Manage Logs**.

5.3.2 CM2-8VSB-03

CM2-8VSB-03 module supports up to 8 8VSB adjacent frequencies modulating with 1 RF connector for output.



Module configuration is similar to IP Setting.

CM2-8VSB-03>Basic Setting

5 W 2-8 V 3	SB-RUT						Status	Basic Setting	Output	Syste
RF Level:	40		(dBmV ● dBuV ○)	PSI/SI Interval(ms): 100		Channel Standard: OFF-AIR				
Channel	Enable				Frequency					
1.1		CH2-57MHz							-	App
1.2		CH2-57MHz							-	
1.3		CH2-57MHz							•	
1.4		CH2-57MHz							-	

Click the Apply button on the right side to make the change take effect.

Name	Range	Name	Range
RF level (1=0.5dB)	15~48	PSI/SI Interval (ms)	50~10000
Channel Standard	OFF-AIR	Frequency (KHz)	CH2-57MHz
	STD		~
	IRC		CH69-802MHz
	SRC		

CM2-8VSB-03 >Output

- > TS setting: Please refer to IP output service configuration.
- > To use this board, you need to change the **Standard** to ATSC in **System Settings**.
- > Don't forget to click **APPLY** when you finish configuration.

	IP Output 🖉 System Settings 🎡 IP Input 🎡 IP Output 🧟 agent -
System Settings	Network Time System Password NMS Register Advance Settings SNMP
Standard Language Authorized Use Time Destination Module Number CA Descriptor Filter PAT Sync Update VLAN Enable	ATSC

5.3.3 CM2-QAMB-R00

> CM2-QAMB-R00

CM2-QAMB-00 module supports up to 16 channels of non-adjacent frequency QAM-B modulating board.



Module configuration is similar to IP Setting.

CM2-QAMB-00 >Basic Setting

F Level: 45 (dBmV) PSI/SI Interval(ms): 100 Channel Standard: STD V								
Channel	Enable	QAM Mode	Channel No.	Bandwidth(MHz)	Constellation	SymbolRate(KBaud)		
1.1		ANNEX B	CH23-219MHz 👻	6 🗸	QAM256	5361	Apply	
1.2		ANNEX B	CH24-225MHz 👻	6	QAM256	5361		
1.3		ANNEX B	CH25-231MHz	6 💌	QAM256 💌	5361		
1.4		ANNEX B	CH5-79MHz 💌	6 💌	QAM256 💌	5361		
1.5		ANNEX B	CH6-85MHz 👻	6	QAM256 👻	5361		
1.6		ANNEX B	CH7-177MHz 👻	6	QAM256 👻	5361		
1.7		ANNEX B	CH8-183MHz 💌	6	QAM256 💌	5361		
1.8		ANNEX B	CH9-189MHz 👻	6	QAM256 👻	5361		
1.9		ANNEX B	CH10-195MHz 👻	6 💌	QAM256 🗸	5361		
1.10		ANNEX B	CH11-201MHz 👻	6 💌	QAM256 👻	5361		
1.11		ANNEX B	CH12-207MHz 👻	6 💌	QAM256 -	5361		
1.12		ANNEX B	CH13-213MHz 👻	6	QAM256	5361		
1.13		ANNEX B	CH14-123MHz 🔻	6	QAM256	5361		
1.14		ANNEX B	CH15-129MHz 👻	6 💌	QAM256	5361		
1.15		ANNEX B	CH16-135MHz -	6 🔻	QAM256	5361		
1.16		ANNEX B	CH17-141MHz 👻	6	QAM256	5361		

Name	Range	Name	Range
Channel Standard	STD, IRC, HRC,	RF level (dBuV)	85~105
	Customized		
Bandwidth (MHz)	6	Constellation	QAM64/QAM256
Symbol Rate	5057(QAM64)		

5361(QAM256)

Click the Apply button on the right side to make the change take effect.

CM2-QAMB-00>Service Configuration

- > TS setting: Please refer to IP output service configuration.
- LCN setting: You need to add NIT streams of all frequencies to the base TS (frequency), which is for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency)., Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click +Descriptor then LCN Descriptor to check all the programs which are contained in this frequency. Then set programs LCN.

NIT TOT	[1.1]	Apply			
NIT Network	Import Export	Clear Config		LCN	Select Service
			Service ID	LCN	Visible Service Flag
Tag: 0x 40 Network Name: 0 Add					
Tag Data Length	Operation				
					/
NIT Stream					
Original Network ID: 0 TS ID: 0	Add				
ONID TS ID Descriptor	Logical Channel Nu	mber			
	× +Des Cable Delivery Syste	em			
	Terrestrial Delivery S	System			
AUT A	Satellite Delivery Sy	stem			
	Service List			ОК	Close

Service ID							
	Service Name		Service ID	LCN	Visible Service Flag		0
1	Program-01		1	1	sible	•	×
2	Program-02		2	2	Visible	•	×
2	Program-02		3	3	Visible	•	×
	1 2 3	Program-01 2 Program-02 3 Program-03	Program-01 Image: Constraint of the second	Program-01 Image: Constraint of the second sec	Image: Program-01 Image: Program-02 Image: Program-02 Image: Program-03 Image: Program-03	1 Program-01 Image: Constraint of the second secon	1 Program-01 Image: Constraint of the state of the s

- Click +Descriptor and the Cable Descriptor. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency). Then click OK. (This operation should be set on Modulator module only).
- You can also add Cable Delivery System, Terrestrial Delivery System, Satellite Delivery system, and Service List.

	Cable Descriptor	
Frequency(KHz)	SymbolRate(Ksymb	Constellation
00000	6875	QAM256

• Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click *Apply* button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN which you set.

5.3.4 CM2-DTMB-03

> CM2-DTMB-03

CM2-DTMB-03 module supports up to 8 channels of adjacent frequency DTMB modulating board



Module configuration is similar to IP Setting.

CM2-DTMB-03 >Basic Setting

CM2-D	TMB-03							Status	Basic Setting	Output	System
Batch Settir	ig 🗸										
RF Level(d	BuV): 45	(dBmV	● dBuV 〇) PSI/SI Interv	al(ms): 100						\frown
Channel	Enable	Frequency(KHz)	Constellation Mode		Frame Head Mo	de	Carrier Mode	RF	Level Gain (dB)		Apply
1.1		474000	4QAM LDPC 0.4	•	420 Variable	•	Single-Carrier	0			
1.2	0	482000	4QAM LDPC 0.4	*	420 Variable	*	Single-Carrier	0			
1.3		490000	4QAM LDPC 0.4	Ŧ	420 Variable	*	Single-Carrier	0			
1.4		498000	4QAM LDPC 0.4	*	420 Variable	*	Single-Carrier	0			
1.5		578000	4QAM LDPC 0.4	•	420 Variable	•	Single-Carrier	0			
1.6		586000	4QAM LDPC 0.4	+	420 Variable	w	Single-Carrier	0			
1.7		594000	4QAM LDPC 0.4	*	420 Variable	•	Single-Carrier	0			
1.8		602000	4QAM LDPC 0.4	+	420 Variable	-	Single-Carrier	0			

Name	Range	Name	Range
Frequency	48000~862000	RF level Gain(dB)	-10~0
Constellation Mode	4QAM LDCP0.4/0.6/0.8	Carrier Mode	Single Carrier
	16QAM LDCP 0.4/0.6/0.8	RF Level (dBuV)	25~60
	32QAm LDCP 0.8	PSI/SI Interval	50~10000
	64QAM LDCP 0.4/0.6/0.8		
Frame Head Mode	420 Variable		
	595 Fixed		

Click the *Apply* button on the right side to make the change take effect.

CM2-DTMB-03>Service Configuration

- > TS setting: Please refer to IP output service configuration.
- LCN setting: You need to add NIT streams of all frequencies to the base TS (frequency), which is for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency)., Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click +*Descriptor* then *LCN Descriptor* to check all the programs which are contained in this frequency. Then set programs LCN.

Original TS	iD Do	Add			
Original TS	iD Do	escriptor			
0	0	socilition	Operati	on	
La	ogical Chann	el Number (2 V1 🗆 V2	Add	m
Service ID	Service Name	LCN [0, 10	23] Visibl	e Service Flag	0
2010	SUPERTV	1	Visible	•	

Service List			LCN				
тs	Service ID	Service Name		Service ID	LCN	Visible Service Flag	C
1.1	1	Program-01		1	1	sible	×
1.1	2	Program-02		2	2	Visible	×
11	3	Program-03		3	3	Visible	×

- Click +Descriptor and the Cable Descriptor. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency). Then click **OK**. (This operation should be set on Modulator module only).
- You can also add Terrestrial Delivery System

Terrestrial Delivery System							
Centre Frequency	1	[1, 4294967295](10Hz)					
Bandwidth	8MHz	•					
		Advanced Parameters 🗸					

 Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click *Apply* button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN which you set.

CM2-DTMB-03> System

CM2-D	TMB-03		Status	Basic Setting	Output System	
License						
	Product ID					
	Import License		Browse	oad		
	Export License	Export				
Logs						
	Open					
Others						
	Reboot	Reset to Defaults				

On the **System** page you can **Import/Export License**, **Reboot** module, **Reset to Defaults** and **Manage Logs**.

5.3.5 CM2-QAMA-03

CM2-QAMA-03 module supports up to 8 channels of adjacent frequency QAM-A/C modulating board.



Module configuration is similar to IP Setting.

CM2-QAMA-03>Basic Setting
atch Settir	g 🗸							
RF Level(d	BuV): 105	PSI/SI Interval(ms):	100					
Channel	Enable	Frequency(KHz)	QAM Mode		SymbolRate(KBaud)	RF Level G	ain (dBuV)	Apply
1.1	~	200000	QAM64	•	6875	0		
1.2		208000	QAM64	•	6875	0		
1.3		216000	QAM64	•	6875	0		
1.4		224000	QAM64	•	6875	0		
1.5		232000	QAM64	•	6875	0		
1.6		240000	QAM64	•	6875	0		
1.7		248000	QAM64	•	6875	0		
1.8		256000	QAM64	-	6875	0		

Click the *Apply* button on the right side to make the change take effect.

Name	Range	Name	Range
Symbol Rate	3600~3956	RF level gain	-10`~0 (multiples of 0. 5)
Frequency (KHz)	48000~862000	QAM Mode	QAM16/QAM32/QAM6 4/QAM128/QAM256

CM2-QAMA-03>Output

- > TS setting: Please refer to IP output configuration.
- LCN setting: You need to add NIT stream of all frequencies in the base TS (frequency) which is used for your STB auto search and identifies all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency). Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click **+***Descriptor* and *Cable Descriptor*. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency) and then click *OK* (this operation should be set on Modulator module only).

Frequency(KHz)	' SymbolRate(Ksymb	Constellation
200000	6875	QAM256 👻

• Click +*Descriptor* and add the *LCN Descriptor* to check all the programs which are contained in this frequency. Then set programs LCN.

		[1.1] NIT	Apply	
Original Net	twork ID ID		Clear	LCN Select Service
Orinin	70.10	Add		
0	0	1 tag:0x83 X 2 2 tag:0x44 X 2	LCN Descriptor	
0	1	1 tag:0x83 🗱 🗹 2 tag:0x44 🗮 🗹	X +De Cable Descriptor	
0	2	1 tag:0x83	× +Descriptor	
0	3	1 tag:0x83 X 🗹 2 tag:0x44 X 🕅	× +Descriptor	OK Close

	Service	e List					
TS	Service ID	Service Name					
1.1	1	2.5M-CCTV1	•		LCN		Select Service
1.2	1	Program0		Service ID	LCN	Visible Service Flag	0
1.3	1	LipSync_1080i		1	66	Visible	
1.3	2	td HD Phx Chinese Cha			X 0	VISIDIE	

• Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click Apply button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN which you set.

5.3.6 CM2-OFDM-03

CM2-OFDM-03 module supports up to 8 channels of adjacent frequency OFDM modulating board.



Module configuration is similar to IP Setting.

CM2-OFDM-03>Basic Setting

CM2-0	FDM-03								
CIIIZ-O	I DM-05						Sta	atus Basic Setting	Output System
RF Level:	105	(dBuV) PSI	/SI Interval(ms): 100						
Channel	Enable	Frequency(KHz)	Bandwidth(MHz)	FFT Mode	GI Mode	QAM Mode	Convolutional Coding	RF Level Gain (dBuv	
1.1	~	200000	6 💌	2К -	1/4	• 64QAM •	• 1/2 •	0	Apply
1.2		208000	6 💌	2К	1/4	64QAM	• 1/2 •	0	
1.3		216000	6 💌	2К 👻	1/4	64QAM	1 /2	0	
1.4		224000	6 💌	2К	1/4	64QAM	1/2 💌	0	
1.5		232000	6 💌	2к 🗸	1/4	64QAM	• 1/2 •	0	
1.6		240000	6 💌	2К -	1/4	64QAM	• 1/2 •	0	
1.7		248000	6 -	2К 👻	1/4	64QAM	- 1/2 -	0	
1.8		256000	6 💌	2К -	1/4	64QAM	r 1/2 ·	0	

Click the Apply button on the right side to make the change take effect.

Name	Range	Name	Range
Bandwidth	6M, 7M, 8M	RF level (dbuV)	85~120
Frequency (KHz)	48000~862000	FFT Mode	2k
GI Mode	1⁄4,1/8,1/16,1/32	QAM Mode	QPSK/16QAM/64QAM
Convolutional Coding	1/2,2/3,3/4,5/6,7/8		

CM2-OFDM-03>Output

- > TS setting: Please refer to IP output configuration.
- LCN setting: You need to add NIT stream of all frequencies in the base TS (frequency) which is used for your STB auto search and identifies all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency). Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click **+***Descriptor* and *Cable Descriptor*. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency) and then click *OK* (this operation should be set on Modulator module only).

	Ctatus	Cottingo 0
	Cable Descriptor	
Frequency(KHz)	SymbolRate(Ksymb	Constellation
200000	6875	QAM256

• Click +*Descriptor* and add the *LCN Descriptor* to check all the programs which are contained in this frequency. Then set programs LCN.

NIT Netwo	rk NIT S	[1.1] NIT		Apply		
Original Net	twork ID ID	0		Clear	LCN	Select Service
TS ID		0		Config	Service ID LCN	Visible Service Flag
		Add				
Origin	TS ID	Descriptor	Operation			
0	0	1 tag:0x83 🛛 🗙 🗹				
U	U	2 tag:0x44 🛛 🗙 🗹	LCN Descri	ptor		
		1 tag:0x83 🛛 🗙 🗹	Cable Desc	rintor		
U	1	2 tag:0x44 🛛 🗙 🗹	Oable Desci	iiptoi		
		1 tag:0x83 🗙 🗹	*	100 C		
0	2	2 tag:0x44 🛛 🗙 🗹	- Descriptor			
		1 tag:0x83 🗙 🗹				
0	3	2 tao:0x44 🗙 🌠	★ +Descriptor	-		Close

Service List

TS	Service ID	Service Name	
1.1	1	2.5M-CCTV1	
1.2	1	Program0	
1.3	1	LipSync_1080i	
1.3	2	td HD Phx Chinese Cha	

Logical Channel Number 🛛 V1 🗆 V2 🗛

TS	Service ID	Service Name	LCN [0, 1023]	Visible Servi	ce Flag	0	
1.1	38	GOLDEN	1	Visible	•		2
1.1	37	D PELICULA	2	Visible	•		
1.1	38	TLNOVELAS	3	Visible	•	0	
1.2	39	UNIVISION	4	Visible	*		

• Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click Apply button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN which you set.

5.3.7 CM2-ISDBT-03

CM2-ISDBT-03 module supports up to 8 channels of adjacent frequency ISDBT-T modulating board



CM2-ISDBT-03>Basic Setting

CM2-ISDI	BT-03					Status	Basic Setting	Output	Syste
Temperatur	e: 33°C (91.4°F)	Tip: The m	odule will automatically power	off when the temperatu	re reaches or ex	ceeds 74 degre	ees Celsius(165.2	degrees Fa	ahrenhe
Channel	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List				
1.1	0.000	0.000	Normal	۲					
1.2	0.000	0.000	Normal	۲	i =				
1.3	0.000	0.000	Normal	۲					
1.4	0.000	0.000	Normal	۲					
1.5	0.000	0.000	Normal	۲					
1.6	0.000	0.000	Normal	۲	i =				
1.7	0.000	0.000	Normal	۲					
		0.000	Marmal						

Click the *Apply* button on the right side to make the change take effect.

Name	Range	Name	Range
Bandwidth(MHZ)	6M	RF level	25~45dBmV/85~105dB µ V
Frequency (KHz)	48000~862000	FFT Mode	2K
GI Mode	1/4, 1/8, 1/16, 1/32	RF Level Gain(dB)	45~55
QAM Mode	QPSK	Convolutional	1/2, 2/3, 3/4, 5/6, 7/8
	16QAM	Coding	
	64QAM		

CM2-ISDBT-03>Output

- > TS setting: Please refer to IP output service configuration.
- LCN setting: You need to add NIT streams of all frequencies to the base TS (frequency) which is for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency). Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click +Descriptor and Cable Descriptor. Fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency) and then click OK (this operation should be set on Modulator module only).

Cable	e Descriptor
Frequency(KHz)	Constellation
474000	64QAM 🗸
O	Close

• Click +*Descriptor* and *LCN Descriptor* to check all the programs which are contained in this frequency. Then set programs LCN.



	Servic	e List	_					
TS	Service ID	Service Name	e	9		LCN		Select Service
1.1	1	Program-01	e	0	Comvise ID	1.011	Visible Comise Flore	
1.1	2	Program-02			Service ID	LGN	VISIBle Service Flag	•
1.1	3	Progra m-03				66	Visible	- ×

• Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click Apply button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN you set.

5.3.8 CM2-QAMB-02

5.3.8 CM2-QAMB-02

CM2-QAMB-02 is a 16/32-channel QAM-B modulation output module with 2 gigabit IP input ports (single port supports 256-channel input),1 CAS interface (RJ45) supporting scrambling (It is not enabled by default and requires additional authorization) and1 RF output interface supporting up to 32 QAM-B non-adjacent frequencies modulating with independent constellation mode configuration.



CM2-QAMB-02 > Status

The Status page contains status information of IP Input, Modulation Output and IP Output.

IP Input >CM2-MOD-02 has 1024 IP input channels. Those channels are divided into two RJ45 ports, each port has 512 IP input channels. Click Port 1tab, users can obtain the 256channels status information such asi input source IP address and port number, total bitrate (Mbps) and effective bitrate (Mbps). The TS analysis and Service List button on each channel allow users to check the detailed information in each TS. See the image below for reference.

					Status 🛛 🏠	} Input 🏠 C	utput 📔 🎡 System S	Setting 🛛 🧟 agent 🗸
Input						Status IP S	etting IGMP Setting	Service Configuration
Total Bitrate	e: 0.000 Mbps							
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List		
1.1	0.0.0.0 : 0	٠	0.000	0.000	۲			
1.2	0.0.0.0 : 0	•	0.000	0.000	۲	1		
1.3	0.0.0.0 : 0	٠	0.000	0.000	۲	=		
1.4	0.0.0.0 : 0	•	0.000	0.000	۲	i=		
1.5	0.0.0.0 : 0	•	0.000	0.000	۲	1		
1.6	0.0.0.0 : 0	•	0.000	0.000	۲	1		
1.7	0.0.0.0 : 0	•	0.000	0.000	۲	I		
1.8	0.0.0.0 : 0	•	0.000	0.000	۲	I		
1.9	0.0.0.0 : 0	•	0.000	0.000	۲	I		
1.10	0.0.0.0 : 0	•	0.000	0.000	۲	i =		
1.11	0.0.0.0 : 0	•	0.000	0.000	۲			

Input						Status IP Settin	IGMP Setting	Service Config
Total Bitrate	: 0.000 Mbps							
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List		
1.1	0.0.0.0 : 0	•	0.000	0.000	۲			
1.2	0.0.0.0 : 0		0.000	0.000	۲			
1.3	0.0.0.0:0	•	0.000	0.000	۲			
1.4	0.0.0.0 : 0	•	0.000	0.000	۲	1		
1.5	0.0.0.0 : 0	•	0.000	0.000	۲	:=		
1.6	0.0.0.0 : 0	•	0.000	0.000	۲	: =		
1.7	0.0.0.0 : 0	•	0.000	0.000	۲			
1.8	0.0.0.0 : 0	•	0.000	0.000	۲			
1.9	0.0.0.0 : 0	•	0.000	0.000	۲			
1.10	0.0.0.0 : 0	•	0.000	0.000	۲	:		
1.11	0.0.0.0 : 0		0.000	0.000	۲			

Click the eye icon , users can know all the PIDs such as PAT, CAT, PCR2, Video Audio, PCR2 PID etc in this TS. See the image below for reference.

Input						Status IP S	Setting	IGMP Setting	S	Servi	Service	Service C	Service Con	Service Config	Service Configur	Service Configura	Service Configura	Service Configura	Service Configura
Total Bitrate	: 0.000 Mbps																		
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List													
1.1	0.0.0.0 : 0	•	0.000	0.000	٢	=													
1.2	0.0.0.0 : 0	•	0.000	0.000	۲	=	1												
1.3	0.0.0.0 : 0	•	0.000	0.000	۲														
1.4	0.0.0.0 : 0	•	0.000	0.000	۲														
1.5	0.0.0.0 : 0	•	0.000	0.000	۲														
1.6	0.0.0.0 : 0	•	0.000	0.000	۲	=													
1.7	0.0.0.0 : 0	•	0.000	0.000	۲														
1.8	0.0.0.0 : 0	•	0.000	0.000	۲	I													
1.9	0.0.0.0 : 0	•	0.000	0.000	۲	=													
1.10	0.0.0.0 : 0		0.000	0.000	۲														
1.11	0.0.0.0 : 0		0.000	0.000	۲														

Channel 1.1 TS Analysis					Reset Counter
				Search	٩
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
		No I	Data]

If the input stream has multiple programs, users can click the icon below "Service List" to see all the services in this stream. See the image below for reference.

Channel	IP Address : Port	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
1.1	227.40.50.88 : 1234	18.455	19.764	۲	· · · · · · · · · · · · · · · · · · ·
1.2	227.40.50.89 : 1234	18.446	19.750	۲	I
1.3	227.40.50.90 : 1234	18.446	19.750	۲	I
1.4	227.40.50.91 : 1234	9.521	10.064	۲	I
1.5	227.40.50.92 : 1234	19.179	20.129	۲	
1.6	0.0.0.0 : 0	0.000	0.000	۲	I
1.7	0.0.0.0 : 0	0.000	0.000	۲	
1.8	0.0.0.0 : 0	0.000	0.000	۲	I
1.0	0000.0	0.000	0.000		
Channel : 1.1					
# Service					
1 [3]					
2 [4]					
3 [5]					

You can also check the details of a service by clicking the Service Name.

CM-MOD-02					Status	Basic Set	ting Multi	plexing Scrambling System
			[3]				ID locut	Madulatina Outauti 10 Outauti
		Туре	PID	Bitrate(M			IP Input	Modulation Output IP Output
		PCR	49(0x31)	27.219				Port 1 Port 2
Channel	ID Address - Dort	Video(MPEG2)	48(0x30) 49(0x31)	0.011	te/Mbns)	TSAr	alveie	Service List
1.1	227 /0 50 88 · 123/	Audio(AC3)	52(0x34)	0.767		ISAI	101y 515	
1.1	227.40.50.00 . 1254	Audio(AC3)	53(0x35)	0.384	00		-	
1.2	227.40.50.89 : 1234		01		00	(9	
1.3	227.40.50.90 : 1234		Close		11	<	۲	
1.4	227.40.50.91 : 1234				30	<	9	I
1.5	227.40.50.92 : 1234				58	<	9	
1.6	0.0.0.0 : 0				00	<	9	I
1.7	0.0.0.0 : 0		0.000			<	9	
1.8	0.0.0.0		0.000	0	.000	<	9	
10	<u></u>		0.000		000		n	=
Channel : 1.1								
# Service								
1 [2]	-							
1 [0]								
2 [4]								
3 [5]								

Modulation Output>CM2-QAMB-02 status shows the Modulation output. Just like the IP Input, this shows the total bitrate and effective bitrate of the 32 channels respectively. The TS Analysis and Service List have the same function as in the IP input. The Status also shows the current temperature of the unit on the upper left corner. See image below for reference.

					Status Basic S	Setting Mul	tiplexing Scrambling	System
						IP Input	Modulation Output	IP Output
Total Bitra	te: 253.430 Mbps							
Temperatu	Ire: 43°C (109.4°F)	Tip: The	module will stop RF output w	hen the temperature	e reaches or excee	ds 74 degrees	Celsius(165.2 degrees	Fahrenheit)!
· ·	, , ,							
Channel	Effective Bitrate(Mbna)	Total Bitrata (Mhna)	Ditroto	TE Analysia	Samiaa Liat			
L.H			NUTTIAL		Service List			
1.5	0.406	50.686	Normal	۲	:			
1.6	0.000	0.000	Normal	۲	i = .			
1.7	0.000	0.000	Normal	۲	i =			
1.8	0.000	0.000	Normal	۲	i =			
1.9	0.000	0.000	Normal	۲	:=			
1.10	0.000	0.000	Normal	۲	i =			
1.11	0.000	0.000	Normal	۲	:=			
1.12	0.000	0.000	Normal	۲	i =			
1.13	0.000	0.000	Normal	۲	:=			
1.14	0.000	0.000	Normal	۲	i =			
1.15	0.000	0.000	Normal	۲	:=			
1.16	0.000	0.000	Normal	۲	i =			
1.17	0.000	0.000	Normal	۲	:=			
1.18	0.000	0.000	Normal	۲	:			
	0.000	0.000						

Channel	Effective Bitrate(Mbps)	Total Bitrate(MI	bps) Bitrate	TS Analysis	Service List			Channel : 1.1
1.19	0.000	0.000	Normal	۲			# S	ervice
1.20	0.000	0.000	Normal	0			1 1	21
1.21	0.000	0.000	Normal	۲				2]
1.22	0.000	0.000	Normal	۲			2 [[4]
1.23	0.000	0.000	Normal	۲			3 [51
1.24	0.000	0.000	Normal	۲	i =	L		
1.25	0.000	0.000	Normal	۲				
1.26	0.000	0.000	Normal	۲				
1.27	0.000	0.000	Normal	۲				
1.28	0.000	0.000	Normal	۲				
1.29	0.000	0.000	Normal	۲	=			
1.30	0.000	0.000	Normal	۲	i i			
1.31	0.000	0.000	Normal	۲				
1.32	0.000	0.000	Normal	۲				
Channel 1	1 TS Analysis							Reset Counter 🛛 😣
					Search			Q
	PID B	itrate(Mbps)	Bandwidth(%)	Continuity Count Erro	r Typ	е		Service
	0×0(0)	0.015	0.039	84	PAT			A
	0x11(17)	0.015	0.039	37	SDT,	BAT		
	0×30(48)	0.015	0.039	99	PM	Г		
	0x31(49)	0.000	0.000	127	PCR, V	/ideo		
	0x34(52)	0.000	0.000	127	Audi	0		
	0x35(53)	0.000	0.000	57	Audi	0		

IP Output>CM2-QAM-02 status also shows the IP output. Just like the IP Input, this shows the total bitrate and effective bitrate ofthe16 channels respectively. The TS Analysis and Service List have the same function as in the IP input. See image below for reference.

						Status Basic S	etting Mul	tiplexing	Scrambling	g Syster
							IP Input	Modula	ation Output	IP Outpu
									Port	1 Port
Total Bitrate:	304.172 Mbps									
Channel	IP Address: Port	Effective Bitrate(Mb	Total Bitrate(Mb	Bitrate	TS Analysis	Service List				
1.1	224.20.20.1 : 1234	0.135	50.692	Normal	۲					
1.2	224.20.20.2 : 1234	0.180	50.702	Normal	۲	1				
1.3	224.20.20.3 : 1234	0.123	50.692	Normal	۲	=				
1.4	224.20.20.4 : 1234	0.213	50.692	Normal	۲	1				
1.5	224.20.20.5 : 1234	0.406	50.702	Normal	۲	=				
1.6	224.20.20.6 : 1234	0.000	50.692	Normal	۲	1				
1.7	0.0.0.0 : 0	0.000	0.000	Normal	۲	=				
1.8	0.0.0.0:0	0.000	0.000	Normal	۲	1				
1.9	0.0.0.0 : 0	0.000	0.000	Normal	۲	=				
1.10	0.0.0.0 : 0	0.000	0.000	Normal	۲	1				
1.11	0.0.0.0 : 0	0.000	0.000	Normal	۲	=				
1.12	0.0.0.0:0	0.000	0.000	Normal	۲	1				
1.13	0.0.0.0 : 0	0.000	0.000	Normal	۲	=				
1.14	0.0.0.0:0	0.000	0.000	Normal	۲	1				
1.15	0.0.0.0	0.000	0.000	Normal	۲	:=				

						Status Basic S	etting Multiplexing	g Scrambling	Syste
							IP Input Mod	ulation Output	IP Out
								Port :	1 Por
								Fuit	FU
Total Bitrate:	304,178 Mbps								
istar pirato.	00 11 1 0 110p0								
Channel	IP Address: Port	Effective Bitrate(Mb	Total Bitrate(Mb	Bitrate	TS Analysis	Service List			
1.1	224.20.20.1 : 1234	0.135	50.692	Normal	۲				
1.2	224.20.20.2 : 1234	0.180	50.702	Normal	۲	:=			
1.3	224.20.20.3 : 1234	0.120	50.698	Normal	۲				
1.4	224.20.20.4 : 1234	0.210	50.692	Normal	۲				
1.5	224.20.20.5 : 1234	0.406	50.702	Normal	۲				
1.6	224.20.20.6 : 1234	0.000	50.692	Normal	۲				
1.7	0.0.0.0 : 0	0.000	0.000	Normal	۲				
1.8	0.0.0.0 : 0	0.000	0.000	Normal	۲				
1.9	0.0.0.0 : 0	0.000	0.000	Normal	۲	:=			
1.10	0.0.0.0 : 0	0.000	0.000	Normal	۲	:=			
1.11	0.0.0.0 : 0	0.000	0.000	Normal	۲	:=			
1.12	0.0.0.0 : 0	0.000	0.000	Normal	۲	:=			
1.13	0.0.0.0 : 0	0.000	0.000	Normal	۲				
1.14	0.0.0.0 : 0	0.000	0.000	Normal	۲				
1.15	0.0.0.0	0.000	0.000	Normal	۲				

CM2-QAMB-02 > Basic Setting

CM2-QAMB-02 Basic Setting is where users input the parameters for IP Input, Modulation Output and IP Output.

IP Input-Parameter Setting> On this page, there are three tabs where you can modify the multicast IP, port and parameter of IP Input. There are *Port 1*, *Port 2*, and *Batch Setting*. The input can accept Multicast or Unicast and support MPTS and SPTS.

Port 1 and Port 2 have same interface. It shows the 512 channels. Check the box under **Enable** to enable a channel. Input the correct Multicast/Unicast IP address and IP port, and select the correct Protocol for the source IP. Once done, click **Apply** for the changes to take effect. See the image below for reference.

							Status Basic Setting	Multiplexing Scram	bling
							IP In	put Modulation Outp	out IF
									Port 1
atch Setting	g 🗸								_
< 1	>								
									C
Channel	Enable	Source Port	Destination IP Address	Destination Port	Protocol	Pkt Length	Enable Destination MAC	Destination MAC	
1.1		1000	224.20.20.1	1234	UDP 🔻	7 •	Disable	01:00:5E:14:14:01	
1.2		1000	224.20.20.2	1234	UDP 🔻	7 •	Disable 🔹	01:00:5E:14:14:02	
1.3		1000	224.20.20.3	1234	UDP 🔻	7 🔹	Disable	01:00:5E:14:14:03	
1.4		1000	224.20.20.4	1234	UDP 🔻	7 🔻	Disable	01:00:5E:14:14:04	
1.5		1000	224.20.20.5	1234	UDP 👻	7 🔹	Disable	01:00:5E:14:14:05	
1.6		1000	224.20.20.6	1234	UDP 🔻	7 •	Disable	01:00:5E:14:14:06	
1.7		1000	224.20.20.7	1234	UDP 🔻	7 •	Disable	00:00:00:00:00:00	
1.8		1000	224.20.20.8	1234	UDP 🔻	7 •	Disable	00:00:00:00:00:00	
1.9		1000	224.20.20.9	1234	UDP 🔻	7 🔹	Disable	00:00:00:00:00:00	
1.10		1000	224.20.20.10	1234	UDP 🔻	7 •	Disable	00:00:00:00:00:00	

Basic Setting is where users can input the IP input parameters in batch. See the image below for reference.

							IP Input	Modulation Ou	itput I	P Output
									Port 1	Port 2
Batch Setting	^									
Select All	I		Start Channel-	End Channel	1-2	56				
Enable	÷	Disable 👻	Destination	IP Address	227.10.20.80	ame 👻				
Protoc	ol	UDP -	Destination	Port	1234 S	ame 👻				Apply
Enable	VLAN	Disable 💌	UIAN ID		1					
			TS Packets	Per IP Packet	7 •					
				Batch Setting						
				Batch Setting						
< 1	2 3 4	4 5 6 7 8 9	0 10 11 12 13	Batch Setting 3 14 15 16 >						
< 1 Channel	2 3 4 Enable	5 6 7 8 9 Destination IP Add	0 10 11 12 13 Destination Port	Batch Setting 3 14 15 16 > Protocol	TS Packets Per IP	VLAN Enable		VIAN ID		
< 1 Channel 1.1	2 3 4 Enable ₹	5 6 7 8 9 Destination IP Add 227.40.50.88	0 10 11 12 13 Destination Port 1234	Batch Setting 3 14 15 16 > Protocol UDP ▼	TS Packets Per IP 7 ▼	VLAN Enable Disable	▼ 1	VIAN ID	_	
< 1 Channel 1.1 1.2	2 3 4 Enable 	5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89	10 11 12 13 Destination Port 1234 1234	Batch Setting 3 14 15 16 > Protocol UDP • UDP •	TS Packets Per IP 7 7	VLAN Enable Disable Disable	 ▼ 1 ▼ 	VIAN ID		
< 1 Channel 1.1 1.2 1.3	2 3 4 Enable	5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89 227.40.50.90	10 11 12 13 Destination Port 1234 1234 1234 1234 1234	Batch Setting 3 14 15 16 Protocol UDP UDP UDP	TS Packets Per IP 7 7 7	VLAN Enable Disable Disable Disable	• 1 • 1 • 1	VIAN ID		
< 1 Channel 1.1 1.2 1.3 1.4	2 3 4 Enable ? ?	5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89 227.40.50.90 227.40.50.90 227.40.50.91 227.40.50.	10 11 12 13 Destination Port 1234 1234 1234 1234 1234	Batch Setting 3 14 14 15 16 Protocol UDP UDP UDP UDP UDP	TS Packets Per IP 7 7 7 7 7 7 7 7	VLAN Enable Disable Disable Disable Disable	 1 1 1 1 1 	VIAN ID		
< 1 Channel 1.1 1.2 1.3 1.4 1.5	2 3 4 Enable	5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89 227.40.50.90 227.40.50.91 227.40.50.91 227.40.50.92 227.40.50.92	2 10 11 12 13 Destination Port 1234 1234 1234 1234 1234 1234	Batch Setting 3 14 15 16 ≥ Protocol UDP ▼ UDP ▼ UDP ▼ UDP ▼ UDP ▼	TS Packets Per IP 7 7 7 7 7 7 7 7 7 7 7 7 7	VLAN Enable Disable Disable Disable Disable Disable	 ▼ 1 ▼ 1 ▼ 1 ▼ 1 	VIAN ID		
< 1 Channel 1.1 1.2 1.3 1.4 1.5 1.6	2 3 4 Enable 2 2 2 3 4 2 3 4 4 3 4 3 4 4 3 4 3 4 3 4	5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89 227.40.50.90 227.40.50.91 227.40.50.91 227.40.50.92 227.40.50.92 227.40.50.92 227.40.50.92 227.40.50.92 227.40.50.92	10 11 12 13 Destination Port 1234 1234 1234 1234 1234 1234 1234 1234 1234 1234 1234	Batch Setting 3 14 15 16 ≥ Protocol UDP ▼ UDP ▼ UDP ▼ UDP ▼ UDP ▼ UDP ▼ UDP ▼	TS Packets Per IP 7 7 7 7 7 7 7 7 7 7 7 7 7 7	VLAN Enable Disable Disable Disable Disable Disable Disable	• 1 • 1 • 1 • 1 • 1 • 1 • 1 • 1	VIAN ID		

Modulation Output-Parameter Setting>On this page, you can enable channels as you need and input the Frequency (KHz), QAM Mode, Symbol Rate (KBaud) and RF Level Gain (dBmV) to have an output.

					Status	Basic Setting Multiplexing Sc	rambling Syste
						IP Input Modulation	Output IP Outp
atch Settin	g 🗸						
RF Level:	15	(dBmV ⊙ dBuV ○) P	SI/SI Interval(ms): 100				Apply
Channel	Enable	Frequency(KHz)	QAM Mode		SymbolRate(KBaud)	RF Level Gain (dB)	
1.1	 Image: A start of the start of	200000	QAM256	•	6875	0	
1.2		208000	QAM256	•	6875	0	
1.3	~	216000	QAM256	•	6875	0	
1.4		224000	QAM256	•	6875	0	
1.5	 Image: A start of the start of	232000	QAM256	•	6875	0	
1.6		240000	QAM256	•	6875	0	
1.7		248000	QAM64	•	6875	0	
1.8		256000	QAM64	•	6875	0	
1.9		264000	QAM64	•	6875	0	
1.10		272000	QAM64	•	6875	0	
1.11		280000	QAM64	•	6875	0	
	_			_		1	

Here is the range parameter of the above info.

Name	Range
Channel Standard	STD, IRC, HRC,
	Customized
Bandwidth (MHz)	6
Symbol Rate	5057(QAM64)
	5361(QAM256)

You can also set the RF level in a range of 85 to 120 as shown in the image below.



Batch Setting is where you can input the modulation parameters in batch. See the image below for reference.

					IP Input Modulation Outp	it IP Outp
Batch Settin	ng ^					
Select A	AII		Start Channel-End Channel	1 - 32		Appi
Enable	le	Disable 💌	Start Frequency	48000		L
Band	width	7 💌	QAM Mode	QAM32 👻		
Symbol	olRate	6875				
			Batch Setting			
RF Level(d	BmV): 105	5 PSI/SI	Interval(ms): 100			
RF Level(d Channel	BmV): 105 Enable	Frequency(KHz)	Interval(ms): 100 QAM Mode	SymbolRate(KBaud)	RF Level Gain (dBmV)	
RF Level(d Channel 1.1	BmV): 105 Enable	5 PSI/SI Frequency(KHz) 474000	Interval(ms): 100 QAM Mode QAM64	SymbolRate(KBaud)	RF Level Gain (dBmV)	
RF Level(d Channel 1.1 1.2	BmV): 105 Enable @	5 PSI/SI Frequency(KHz) 474000 208000	Interval(ms): 100 QAM Mode QAM64	SymbolRate(KBaud) 6875 6875	RF Level Gain (dBmV)	
RF Level(dl Channel 1.1 1.2 1.3	BmV): 105 Enable C	5 PSI/SI Frequency(KHz) 474000 208000 216000	Interval(ms): 100 QAM Mode QAM64 QAM64	SymbolRate(KBaud) 6875 6875 6875	RF Level Gain (dBmV) 0 0 0 0 0 0	
RF Level(d Channel 1.1 1.2 1.3 1.4	BmV): 105 Enable C C C	Frequency(KHz) 474000 208000 216000 224000	Interval(ms): 100 QAM Mode QAM64 QAM64 QAM64 QAM64	SymbolRate(KBaud) 6875 6875 6875 6875 6875	RF Level Gain (dBmV) 0 0 0 0 0 0	
RF Level(d) Channel 1.1 1.2 1.3 1.4 1.5	BmV): 105 Enable C C C C C C C C C C	Frequency(KHz) 474000 208000 216000 224000 490000	Interval(ms): 100 QAM64 QAM64 QAM64 QAM64 QAM64 QAM64	SymbolRate(KBaud) 6875 6875 6875 6875 6875 6875 6875 6875	RF Level Gain (dBmV) 0 0 0 0 0 0 0 0	
RF Level(d) Channel 1.1 1.2 1.3 1.4 1.5 1.6	BmV): 102 Enable Ø Ø Ø Ø	Frequency(KHz) 474000 208000 216000 224000 490000 240000	Interval(ms): 100 QAM Mode QAM 64 QAM 64 QAM 64 QAM 64 QAM 64 QAM 64 QAM 64	SymbolRate(KBaud) 6875 6875 6875 6875 6875 6875 6875 6875	RF Level Gain (dBmV) 0 0 0 0 0 0 0 0 0 0 0 0 0	

IP Output-IP Setting> On this page, there are three tabs where you can modify the multicast IP, port and parameter of IP Output. There are *Port 1*, *Port 2* and *Batch Setting*. The output can accept Multicast or Unicast and support MPTS and SPTS.

Port 1 shows the 16 channels. Check the box under Enable to enable a channel. Input the correct Multicast/Unicast IP address, IP port and appropriate output bitrate, and select the correct Protocol for the output IP. Once done, click *Apply* for the changes to take effect. See the image below for reference.

Output									Status ASI Setting IP	Setting	Service Con
atch Setting	l 🗸										
Interval:	100	(ms)	Null Packet Filter:	Disable 🔻							
< 1	2 3 4	5 6 7	8 >								
Channel	Enable	Source Port	Destination IP A	Destination P	Proto	col	Pkt Length	Bitrate(Enable Destination MAC	: C	Destination MAC
1.1		1000	227.10.20.2	1234	UDP	•	7	- 15	Disable	• 00	0:00:00:00:00:00
1.2		1000	227.10.20.3	1234	UDP	Ŧ	7	- 15	Disable	• 00	0:00:00:00:00:00
1.3		1000	227.10.20.4	1234	UDP	•	7	- 15	Disable	• 00	0:00:00:00:00:00
1.4		1000	227.10.20.5	1234	UDP	•	7	- 15	Disable	• 0	0:00:00:00:00:00
1.5		1000	227.10.20.6	1234	UDP	•	7	- 15	Disable	• 00	0:00:00:00:00:00
1.6		1000	227.10.20.7	1234	UDP	•	7	- 15	Disable	• 0	00:00:00:00:00
1.7		1000	227.10.20.8	1234	UDP	•	7	15	Disable	• 00	0:00:00:00:00:00
1.8		1000	227.10.20.9	1234	UDP	•	7	15	Disable	• 0	0:00:00:00:00
1.9		1000	227.10.20.10	1234	UDP	•	7	15	Disable	• 00	0:00:00:00:00
1.10		1000	227.10.20.11	1234	UDP	•	7	15	Disable	• 0	0:00:00:00:00
1.11		1000	227.10.20.12	1234	UDP	•	7	15	Disable	• 00	0:00:00:00:00
1.12		1000	227.10.20.13	1234	UDP	•	7	15	Disable	- 0	0:00:00:00:00

Batch Setting is where you can input the IP output parameters in batch. See the image below for reference.

							IP Input Modulation Output	IP Output
								Port 1
Batch Setting	<u>^</u>							
Select	All		Start Channel-End C	Channel 1	-	16		Apply
🗆 Enat	ble	Disable	Destination IP Ad	dress 22	7.10.20.80	Same 👻		(helped)
Sour	rce Port	1000	Destination Port	12	34	Same 👻		
Prote	ocol	UDP	TS Packets Per IF	Packet 7	*			
		05	Enchie Destination	- MAC	- his	AA-00-00-00-55-		
Bitra	ate	25	Enable Destination	IN MAC	sable 🔹	AA.BB.CC.DD.EE.		
U Bitra	ate	25	Batch Set		sable 👻	AA.BB.CC.DD.EE.		
U Bitra	ate	25	Batch Set	ting	sable	AA.BB.CC.DD.EE.		
U Bitra	>	25	Batch Set	ting	able	AA.BB.CC.DD.EE.		
Bitra	> Enable	25 Source Port	Destination IP Address	Destination Port	Protocol	TS Packets Per IP Packet	Enable Destination MAC	
Bitra	> Enable 愛	Source Port	Destination IP Address 224.20.20.1	Destination Port	Protocol UDP	TS Packets Per IP Packet	Enable Destination MAC	
Channel	> Enable @	Source Port 1000 1000	Destination IP Address 224.20.20.1 224.20.20.2	Destination Port 1234 1234	Protocol UDP + UDP +	TS Packets Per IP Packet	Enable Destination MAC Disable	
 Bitra Channel 1.1 1.2 1.3 	> Enable ⊘ ⊘	Source Port 1000 1000	Destination IP Address 224.20.20.1 224.20.20.2 224.20.20.3	Destination Port 1234 1234	Protocol UDP • UDP •	TS Packets Per IP Packet 7	Enable Destination MAC Disable Disable Disable	
< 1 Channel 1.1 1.2 1.3 1.4	> Enable Ø Ø	Source Port 1000 1000 1000 1000	Destination IP Address 224.20.20.1 224.20.20.2 224.20.20.3 224.20.20.4	Destination Port 1234 1234 1234 1234	Protocol UDP • UDP • UDP •	TS Packets Per IP Packet 7	Enable Destination MAC Disable Disable Disable Disable	

CM2-QAMB-02 > Multiplexing

Multiplexing has four tabs: Source, Service Configuration, SI Table Setting and PID

Transmission. Here you are can set to output services from IP Input to Modulation Output. Click

Multiplexing to see 32 modulation output channels. Select a channel you want to configure and you will see *Source* setting of this channel.

Output Channel		Status Basic Setting	Multiplexing Scrambling Syste
1 2 3 4 5 6 7 8 9 10 11 12 13 17 18 19 20 21 22 23 24 25 26 27 28 29	14 15 16 30 31 32		Аррју
Source Service Configuration PSIP PID Transmission Port 1 Port 2			Clear Config
1 - 32 33 - 64 65 - 96 97 - 128 129 - 160 161 - 192 193 - 224 257 - 288 289 - 320 321 - 352 353 - 384 385 - 416 417 - 448 449 - 480	225 - 256 481 - 512		
Please tick the input channel to get the source of the program Select All			
III II2 II3 II4 II5 II6 II7 II8 1.17 1.18 1.19 1.20 1.21 1.22 1.23 1.24	1.9 1.10 1.1 1.25 1.26 1.2	1 1.12 1.13 1.14 7 1.28 1.29 1.30	1.15 1.16 1.31 1.32
Scanning Time(ms): 7000 SI Search Time(ms): 5000	Set		
Source CCM/EMM Filter	RF Output[1] 200000KH	Hz 6875KBaud	[0.135/50.686M]
C	Source	Service Name	8
□ [1,1] 239.132.0.200:10000 □ </th <th>1 1.1</th> <th>[257] STAR SPORTS FIRST [258] STAR SPORTS 2</th> <th>×</th>	1 1.1	[257] STAR SPORTS FIRST [258] STAR SPORTS 2	×
	3 1.1	[259] NEWS 18 INDIA	×

Multiplexing-Source> Source is where you select a source for output. You can chose **Port 1 2** for the source. Each port is divided into 16 groups to complete 512 channels. Select a Port and you can see service lists of Group and Channel as shown below.

																	Sta	atus Ba	sic Setting	Multiple	king Scram	bling S
Outpu	ıt Ch	annel																				
1	2	3	4	5	6	7	8	9	10) 11	12 13	14	15	16								
17	18	19	20	21	22	23	24	25	26	6 27	28 29	30	31	32								Apply
																						Coppin
Sourc	е	Servio	e Co	nfigura	tion	PSIP	PII	D Transr	nissio	n												
Port		Por	t 2																			Clear
1 - 30	>	33 -	64	65 -	96	97 -	128	129 - 1	50 Ý	161 - 192	193 - 2	04 2	25 - 26	6								Com
257 - 2	88	289 -	320	321 -	352	353 -	384	385 - 4	16 4	117 - 448	449 - 4	 RO 4	81 - 51	2								
201 - 2	00	200 -	020	021-	002	000 -	004	000-4	10 -	117 - 440			01-0	2								
Please	tick	the in	put c	hanne	l to ge	t the s	ource	of the p	rogra	m 🗆	Select A	I										
v 1.1] 1.2		1.3	1.	.4	1.5		1.6	1.7	1.8		1.9	1.10		1.11	1.12	1.13	1.14	1.15	1.16	
1.17] 1.18		1.19	1	.20	1.21		1.22	1.23	1.24		1.25	1.26		.27	1.28	1.29	1.30	1.31	1.32	
Scannin	g Tir	ne(ms): 70	00			5	SI Searc	h Tim	e(ms): 5	000			Set								
	-																					
					Sourc	e			(_ ECM/E	MM Filter		RF (Dutput[1]	200000	KHz	6875KBau	ıd		[0.1	35/50.686M]	
										~	_			Sou	irce			Service	e Name		۲	
B · 🔲 🧁	[1.1	239.1	92.0.	200:10	000 S EID	ст				S	Bypas	s	1	1.1			[2	57] STAR SI	PORTS FIRST	-	×	
		258] S	TAR	SPORT	S 2	51							2	1.1				[258] STAR	SPORTS 2		×	
~	10	259] N	EWS	18 INE	AI								3	1.1				[259] NEW	S 18 INDIA		×	

To output the service on the Modulation Output, you can simply put a tick in the box beside the service you want to output. You can output multiple Service from different Source channels or bypass the TS to Modulation output.

Scanning Time(ms): 1000	Set				
Source	ECM/EMM Filter			RF Output[1] 474000KHz 6875KBaud	
			Source	Service Name	8
Image: State St	😏 🗆 Bypass	1	1.1	[3]	×
	C B Duran	2	1.1	[4]	×
	💭 🗆 Bypass	3	1.1	[5]	×
		4	1.4	[1] LipSync_1080i	×
. [5]					i

To Output the TS by Bypass mode, you can simply check the **Bypass** box of the TS. You can only bypass 1 TS and cannot output other services from different channel sources. Bypass mode allows you to keep the input signal automatically be redirected to Modulation output without re-scanning the input or transferring it to output.

Source	ECM/EMM Filter	RF Output[1] 474000KHz 6875KBaud				
		[Bypass]Source	8			
Image: Constraint of the state of the s		[1.4] 227.40.50.91:1234	×			

Multiplexing-Service Configuration> After output the services from IP input to Modulation output, you can now edit the Service ID and other PID on the output. Click on the Service Configuration to see this page, it shows the output service on this channel only.

tput C	Channel																		
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16					
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32					Apply
urce	Servic	ce Con	figurati	on	PSIP	PID	Transm	ssion											
																			Clear
ck "Apr	olv" after	r modi	fvina v	our pa	ramete	rs to sa	ve the c	onfigur	ation									×	Config
ck "App	ply" after	r modi	fying yo	our pa	ramete	rs to sa	ve the c	onfigur	ation.									×	Config
ck "App	ply" after	er modi	fying yo	our pa	ramete	rs to sa	ve the c	onfigur	ation.									×	Config
ck "App	ply" after	r modi	fying yo	our pa O	ramete utput	rs to sa	ve the c	onfigur	ation. EditT	S NIT BA	π							×	Config
ck "App	ply" after Sou	r modi	fying yo	our pa	ramete utput	rs to sa Serv	ve the c	onfigur	ation. EditT	S NIT BA	σ							×	Config
ck "App	ply" after Sou	er modi urce .1	fying yo	our pa	utput	rs to sa Serv 257]ST/	ve the c	onfigur 1e TS FIRS	editT	s nit Ba	σ							×	Config
ck "App 1 2	ply" after Sou 1.	urce .1	fying yo	our pa	ramete utput	serv 257]ST4 258]S	ve the c rice Nan R SPOR TAR SPO	nfigur 1e TS FIRS RTS 2	editt	s nit Ba	σ							×	Config
1 2 3	ply" after Sou 1. 1. 1.	urce .1 .1	fying yo	our pa	utput	Serv 257]ST/ (258]S (259]	rice Nam R SPOR TAR SPOR	onfigur 1e TS FIRS RTS 2 INDIA	EditT	S NIT BA	σ							×	Config
ck "App 1 2 3 4	ply" after Sou 1. 1. 1. 1.	urce .1 .1 .1 .1 .1	fying yo	our pa	utput	Sen 257)ST/ 258)S 259) 259) 259) 259) 259)	rice Nam R SPOR TAR SPOR NEWS 18 260JSAB	nfigur S FIRS RTS 2 INDIA V	editT	s nit ba	σ							×	Config
ck "App 1 2 3 4 5	ply" after Sou 1. 1. 1. 1. 1. 1.	urce .1 .1 .1 .1 .1 .1	fying yo	our pa	utput	Serv 257]ST/ * [258]S * [259] * [259]	rice Nar R SPOR TAR SPOR NEWS 18 260]SAB 1 51]SET M	nfigur Te TS FIRS RTS 2 INDIA V AX	editT	S NIT BA	σ							×	Config

You can click the Name of the service and it will show a table where you can modify some information of the service like Service ID, Service Name, Service Provider, PCR2 PMT AUDIO and Video PID. Click OK & Apply for the changes to take effect.

		Output	EditTS NIT BAT		[1.1] TS >> LipS	ync_1080i
	Source	Service Name			Original Value	Value
1	1.1	13]		Service ID	1	1
2	1.1	▲ [4]		Service Name		LipSync_1080i
4	1.4	[3] [1]LipSync 1080i		Service Provider		Harmonic
				PCR PID	512	512
				PMT PID	256	256
				Video(H264)	513	513
				Audio	4112	4112
				Private Data/AC3	4114	4114
					ОКС	ancel

Here you can also edit the Original Network ID and TS ID of the Modulation Output.

	Output EditTS NIT BAT			[1.1] TS	
Source	Service Name	Origin	al Network ID	1	
1.1	🖍 [3]Program-1	TS ID		1	
1.1	🖍 [4]Program-2				
1.1	🖍 [5]bbPBR	NO.	Service ID	Service Name	Service Provide
1.4	[1]LipSync_1080i	1	3	Program-1	
		2	4	Program-2	
		3	5	bbPBR	
		4	1	LipSync 1080i	Harmonic

Here you can also edit NIT and create NIT Network for the OTA upgrade.

		Output EditTS NIT BAT		Ptroom NIT Other		
	Source	Service Name				
1	1.1	🖍 [3]Program-1	Tug(TICK)			
2	1.1	✓ [4]Program-2	Data(Hex)			
3	1.1	🖍 [5]bbPBR		Ad	d	
4	1.4	🖍 [1]LipSync_1080i				
			Tag(Hex)	Data(Hex)	Length	Operation
			40	123	3	×

Still in NIT, you can also create NIT Streams and generate LCN for channel list and Cable Descriptor for frequency auto search.

	m NIT Other	NIT Stream	NIT Network	Output EditTS NIT BAT		
	2	ork ID	Original Note	Service Name	Source	
	2		Original Net	X [3]Program-1	1.1	
	2		TS ID	✓ [4]Program-2	1.1	2
	Add			1.1 / [5]bbPBR		
				🖍 [1]LipSync_1080i	1.4	4
Operation	Descriptor	TS ID	Original			
	1 tag:0x44 🛛 🗙 🗹	<u>1 ta</u>				
× +Descriptor	2 tag:0x83 🛛 🗙 🗹	1 <u>2 ta</u>	1			
		2	2			

For the LCN Descriptor: input the Service ID and the LCN for the channel line-up of the services.

For the Cable Descriptor: input the correct frequency and Symbol Rate for the corresponding TS output. Cable descriptor depends on the setup you use. Mostly, Cable descriptor is created for 1 TS only. Some configuration need to be created in each TS.

Still in NIT, you can also create NIT Other.

Please	e click "Apply" after	modifying parameters. Otherwise, ne	w configuration can r	ot be saved.	
		Output	EditTS NIT BAT		
	Source	Service Name		NII Network ID	NIT Other
1	1.1	💉 [3]Program-1		Network ID	1234
2	1.1	💉 [4]Program-2		Version Number	0
3	1.1	🖍 [5]bbPBR			OK
4	1.4	🖍 [1]LipSync_1080i			

Here you can also create BAT.

Please	click "Apply" after	modifying parameters. Otherwise, ne	w configuration can n	ot be saved.		
		Output	EditTS NIT BAT		[1.1] BAT	
	Source	Service Name		Bouquet Id	P	
1	1.1	🖍 [3]Program-1		Bouquet Name		
2	1.1	💉 [4]Program-2				
3	1.1	💉 [5]bbPBR			Add	
4	1.4	🖍 [1]LipSync_1080i	1			
	i			Bouquet Id	Bouquet Name	Operation
					No Data	

Multiplexing-SI Table Setting> This page is to choose whether to insert/generate the SI tables or Copy the SI tables from the input streams.

Output Ch	annel														
1 2	3	4	5	6	7	8		9	10	11	12	13	14	15	16
17 18	19	20	21	22	23	24		25	26	27	28	29	30	31	32
Source	Service	e Confi	igurati	on	SI Tat	ole Set	ting	PI	D Trai	nsmiss	ion				
				Ou	itput [1	1.1]									
☑PAT	Insert					E	EIT S	hared							
✔CAT	Insert						AT S	hared							
✓ SDT	Insert					S	DT S	hared							
✓TDT	Insert					T	DT S	hared							
TOT	Insert					T	OT S	hared							
BAT	Insert					B	AT S	hared							
■NIT	Insert						IIT S	hared							
⊘PMT	Insert														
0	irce		[1.1]:	227.40	0.50.88	: 1234						-			

Multiplexing-PID Transmission> This page is to transmit the input PID to Output on the PID required by the system.

Output Channel				
1 2 3 4 5 17 18 19 20 21 2 Source Service Configuration	6 7 8 9 10 22 23 24 25 26 SI Table Setting PID Tr	11 12 13 14 15 27 28 29 30 31 ansmission	5 16 1 32	
Input	Input PID No Data	Output PID	Delete Input	1.1 PID 32
			Outpu	Add Delete All

CM2-QAMB-02 > System

CM2-QAMB-02 System is composed of two sub menus namely Network and License.

Network> Here you can modify the IP Address, Subnet Mask and Gateway for each port of the module, except for the address of the module itself. This also shows the MAC Address of each port of the module. See the image below for reference.

M-QAMI	B-02				Status	Basic Setting	Multiplexing
							Network
Port	IP Address	Subnet Mask	Gateway	MAC Address	Link Speed	Link Statu	5
NMS	192.168.1.11	255.255.255.0	192.168.1.254	A0:69:86:06:38:2F			
CAS	192.168.2.10	255.255.255.0	192.168.2.254	A0:69:86:06:38:30	auto 👻	link down	
DATA1	192.168.3.10	255.255.255.0	192.168.3.254	A0:69:86:06:38:31	auto 👻	link down	
DATAD	192 168 4 10	255 255 255 0	192 168 4 254	A0:69:86:06:38:32	auto	link down	

License>Here you can import/export *license*, reboot module, *restore factory default settings* and *manage logs*.

CM-QAMB-02		S	tatus	Basic Setting	Multiplexing	System
					Network	Setting
Program Auto Scan						
Enable	Set					
Clear all channel configuration						
	Clear					
Configuration						
Import Configuration		Bro	owse	Upload		
Export Configuration	Export					
License						
Product ID	DF30999990036					
Import License		Bro	owse	Upload		
Export License	Export					
Logs						
Open						

Log Manage>This page shows the logs of the module. If there are issues encountered on this module, exporting the logs will help R&D team to analyze and fix them.

Turn on *Enable Real-time Log* switch to see the real time log messages and the severity level of each message below.

CM-MOD-02				Status	Basic Setting	Multiplexing	Scrambling	System
							Network	License
Back	able Real-time Log: ON						Filte	r: Ţ
Level		No Data	Message					
				[Tips: �Debug	lnformation	A Warning	C Error
> Click	to clear all log	messages on the	screen	l.				



- Click to export log information.
- > Click T to filter desired log messages.

Clicking the filter icon, can simply select what logs to be included.

og Filter	
Level	
Operation	
Ø	
Iodule List Operation	
~	
 ✓ 	-
e e	
	og Filter Level Operation Ø Operation Indule List Operation Ø Ø Ø Ø Ø Ø Ø Ø Ø Ø Ø Ø Ø

CM2-QAMA-02 is as same as CM2-QAMB-02, In addition to supporting the scrambling function, it is not a default authorization and requires additional authorization

5.3.9 CM2-QAMA-R02

CM2-QAMA-R02 is a 16/32-channel QAM-A modulation output module with 2 gigabit IP input ports (single port supports 256-channel input), 1 CAS interface (RJ45) supporting scrambling and 1 RF output interface supporting up to 32 QAM-A non-adjacent frequencies modulating with independent constellation mode configuration.



CM2-QAMA-R02 > Status

The Status page contains status information of IP Input, Modulation Output and IP Output.

IP Input >CM2-QAMA-R02 has1024 IP input channels. Those channels are divided into two RJ45 ports, each port has 512 IP input channels. Click Port 1tab, users can obtain the 256 channels status information such ASI input source IP address and port number, total bitrate (Mbps) and effective bitrate (Mbps). The TS analysis and Service List button on each channel allow users to check the detailed information in each TS. See the image below for reference.

512 channels in port 1

CMP201A User Guide

				Status Basic Se	tting Multiplexing Sys
				IP Input	Modulation Output IP Output
					Port 1 P
work Port Bitrate: 0.0	00 Mbps Total TS Bitrate: 0.000 N	Abps			
Channel	IP Address : Port	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
1.1	239.192.10.200 : 10000	0.000	0.000	۲	
1.2	239.192.10.201 : 10000	0.000	0.000	۲	
1.3	239.192.10.202 : 10000	0.000	0.000	۲	
1.4	239.192.0.205 : 10000	0.000	0.000	۲	
1.5	0.0.0.0 : 0	0.000	0.000	۲	
1.6	0.0.0.0 : 0	0.000	0.000	۲	
1.7	0.0.0.0 : 0	0.000	0.000	۲	
1.8	0.0.0.0 : 0	0.000	0.000	۲	I
1.9	0.0.0.0:0	0.000	0.000	۲	
1.10	0.0.0.0 : 0	0.000	0.000	۲	
I-QAMA-R02				Status Basic Set	tting Multiplexing Sys
I-QAMA-R02				Status Basic Set	tting Multiplexing Sys Modulation Output IP Ou
I-QAMA-R02				Status Basic Set	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po
work Port Bitrate : 0.0	10 Mbps Total TS Bitrate : 0.000 M	1bps		Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po
work Port Bitrate : 0.0	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port	Abps Effective Bitrate(Mbps)	Total Bitrate(Mbps)	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List
work Port Bitrate : 0.01	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000	Abps Effective Bitrate(Mbps) 0.000	Total Bitrate(Mbps) 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List
work Port Bitrate : 0.01	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000	Effective Bitrate(Mbps) 0 000 0 000 0 000	Total Bitrate(Mbps) 0.000 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List
Vert Bitrate : 0.01	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000 239.192.10.202 : 10000	Effective Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000 0.000 0.000	Total Bitrate(Mbps) 0.000 0.000 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List
I-QAMA-R02 work Port Bitrate : 0.01 Channel 1.1 1.2 1.3 1.4	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000 239.192.10.202 : 10000 239.192.0.205 : 10000	Effective Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	Total Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Por Service List
I-QAMA-R02 work Port Bitrate : 0.01 Channel 1.1 1.2 1.3 1.4 1.5 1.0	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000 239.192.0.205 : 10000 239.192.0.205 : 10000 0.0.0.0 : 0	Effective Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	Total Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List
I-QAMA-R02 work Port Bitrate : 0.01 Channel 1.1 1.2 1.3 1.4 1.5 1.6 1.7	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000 239.192.0.202 : 10000 239.192.0.205 : 10000 0.0.0.0 : 0 0.0.0.0 : 0	Effective Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	Total Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000 0.000 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List III III III III III III
Channel 0.01 1.1 1.2 1.3 1.4 1.5 1.6 1.7 4.9	D0 Mbps Total TS Bitrate : 0.000 N IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000 239.192.10.202 : 10000 239.192.0.205 : 10000 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0	Effective Bitrate(Mbps) 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000 0 000	Total Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List
Channel 0.01 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 1.9	D0 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000 239.192.10.202 : 10000 239.192.0.205 : 10000 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0	Effective Bitrate(Mbps) 0.000	Total Bitrate(Mbps) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List III III III III III III III
Channel 0.01 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 1.10	D0 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000 239.192.10.202 : 10000 239.192.0.205 : 10000 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0 0.0.0.0 : 0	Effective Bitrate(Mbps) 0.000	Total Bitrate(Mbps) 0.000	Status Basic Sel	tting Multiplexing Sys Modulation Output IP Ou Port 1 Por Service List III III III III III III III III III I

Click the eye icon , users can know all the PIDs such as PAT, CAT, PCR2, Video Audio, PCR2 PID etc in this TS. See the image below for reference.

Channel	IP Address : Port	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
1.1	227.40.50.88 : 1234	22.960	24.603	۲	i 🔳 🔺
1.2	227.40.50.89 : 1234	26.267	28.141	۲	
1.3	227.40.50.90 : 1234	26.256	28.130	۲	
1.4	227.40.50.91 : 1234	9.520	10.085	۲	
1.5	227.40.50.92 : 1234	26.094	27.383	۲	
1.6	0.0.0.0 : 0	0.000	0.000	۲	
1.7	0.0.0.0 : 0	0.000	0.000	۲	
		0.000	0.000		
1.8	0.0.0.0 : 0	0.000	0.000	~	=
1.8	0.0.0.0:0	0.000	0.000	<u> </u>	
1.8 1.0 Channel 1.1 TS Analysis	0.0.0.0:0	0.000	0.000		Reset Counter (8)
1.8 1.0 Channel 1.1 TS Analysis	0.0.0.0:0	0.000	Search	<u>.</u>	Reset Counter
1.8 1.0 Channel 1.1 TS Analysis PID	0.0.0.0:0	0.000 0.000 Bandwidth(%)	Could	туре	Reset Counter
1.8 1.0 Channel 1.1 TS Analysis PID 0x0(0)	0.0.0.0:0 0.0.0.0 Bitrate(Mbps) 0.022	Bandwidth(%) 0.113	Continuity Count Error 0	Type PAT	Reset Counter
1.8 1.0 Channel 1.1 TS Analysis PID 0x0(0) 0x31(49)	0.0.0.0:0 0000-0 Bitrate(Mbps) 0.022 13.098	0.000 0.000 Bandwidth(%) 0.113 67.180	Continuity Count Error 0	Type PAT PCR, Video	Reset Counter
1.8 1.0 Channel 1.1 TS Analysis PID 0x0(0) 0X31(49) 0X34(52)	0.0.0.0:0 0.0.0.0 Bitrate(Mbps) 0.022 13.098 0.397	0.000 0.000 Bandwidth(%) 0.113 67.180 2.036	Continuity Count Error 0 0 0	Type PAT PCR, Video Audio	Reset Counter
1.8 1.0 Channel 1.1 TS Analysis PID 0x0(0) 0x31(49) 0x34(52) 0x34(53)	0.0.0.0:0 0.0.0.0 Bitrate(Mbps) 0.022 13.098 0.397 0.198	Bandwidth(%) 0.113 67.180 2.036 1.016	0.000 0.000 Search Continuity Count Error 0 0 0 0	Type PAT PCR, Video Audio	Reset Counter
1.8 1.0 Channel 1.1 TS Analysis PID 0x0(0) 0x31(49) 0x34(52) 0x35(53) 0x41(65)	0.0.0.0:0 0.0.0.0 Bitrate(Mbps) 0.022 13.098 0.397 0.198 1.852	Bandwidth(%) 0.113 0.113 0.113 0.7.180 2.036 1.016 9.499	Continuity Count Error 0 0 0 0 0 0 0	Type PAT PCR, Video Audio Audio PCR, Video	Reset Counter
1.8 1.0 Channel 1.1 TS Analysis PID 0x0(0) 0x31(49) 0x34(62) 0x35(53) 0x41(65) 0x44(68)	0.0.0.0 : 0 0.0.0.0 : 0 0.022 13.098 0.397 0.198 1.852 0.198	Bandwidth(%) 0.113 67.180 2.036 1.016 9.499 1.016	Continuity Count Error 0 0 0 0 0 0 0 0 0 0 0	Type PAT PCR, Video Audio PCR, Video Audio	Reset Counter

If the input stream has multiple programs, users can click the icon below "Service List" to see all the services in this stream. See the image below for reference.

Channel	IP Address : Port	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	T S Analysis	Service List	
1.1	227.40.50.88 : 1234	18.455	19.764	۲		*
1.2	227.40.50.89 : 1234	18.446	19.750	۲	I	
1.3	227.40.50.90 : 1234	18.446	19.750	۲	I	
1.4	227.40.50.91 : 1234	9.521	10.064	۲	i	
1.5	227.40.50.92 : 1234	19.179	20.129	۲	I	
1.6	0.0.0.0 : 0	0.000	0.000	۲		
1.7	0.0.0.0 : 0	0.000	0.000	۲	I	
1.8	0.0.0.0 : 0	0.000	0.000	۲	I	
1.0	0.0.0.0	0.000	0.000	.	:=	*
Channel : 1.1						
# Service						
1 [3]						
2 [4]						
3 [5]						

You can also check the details of a service by clicking the Service Name.

CM-MOD-02					Status	Basic Set	ting Multi	plexing Scrambling System
			[3]				ID locut	Madulatina Outauti 10 Outauti
		Туре	PID	Bitrate(M			IP Input	Modulation Output IP Output
		PCR	49(0x31)	27.219				Port 1 Port 2
Channel	ID Address - Dort	Video(MPEG2)	48(0x30) 49(0x31)	0.011	te/Mbns)	TSAr	alveie	Service List
1.1	227 /0 50 88 · 123/	Audio(AC3)	52(0x34)	0.767		ISAI	101y 515	
1.1	227.40.50.00 . 1254	Audio(AC3)	53(0x35)	0.384	00		-	
1.2	227.40.50.89 : 1234		01		00	(9	
1.3	227.40.50.90 : 1234		Close		11	<	۲	
1.4	227.40.50.91 : 1234				30	<	9	I
1.5	227.40.50.92 : 1234				58	<	9	
1.6	0.0.0.0 : 0				00	<	9	I
1.7	0.0.0.0 : 0		0.000			<	9	
1.8	0.0.0.0		0.000	0	.000	<	9	
10	<u></u>		0.000		000		n	=
Channel : 1.1								
# Service								
1 [2]	-							
1 [0]								
2 [4]								
3 [5]								

Modulation Output>CM2-QAMA-R02 status shows the Modulation output. Just like the IP Input, this shows the total bitrate and effective bitrate of the 32 channels respectively. The TS Analysis and Service List have the same function as in the IP input. The Status also shows the current temperature of the unit on the upper left corner. See image below for reference.

CM-QA	MA-R02				Sta	atus Basic Setting Multiplexing Sy	stem
						IP Input Modulation Output IP O	utput
Total Bitra	ite: 27.962 Mbps						
Temperat	ture: 41°C (105.8°F)	Tip: The m	nodule will stop RF output w	hen the temperature	reaches or exceed	ds 74 degrees Celsius(165.2 degrees Fahren	heit)!
Channel	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List		
1.1	0.090	27.962	Normal	۲		*	
1.2	0.000	0.000	Normal	۲	=		
1.3	0.000	0.000	Normal	۲	:=		
1.4	0.000	0.000	Normal	۲			
1.5	0.000	0.000	Normal	۲	i=		
1.6	0.000	0.000	Normal	۲	=		
1.7	0.000	0.000	Normal	۲	i=		
1.8	0.000	0.000	Normal	۲			
1.9	0.000	0.000	Normal	۲	i		
1.10	0.000	0.000	Normal	۲	I		
1.11	0.000	0.000	Normal	۲	=		
1.12	0.000	0.000	Normal	۲			
1.13	0.000	0.000	Normal	۲			

Channel	Effective Bitrate(Mbps)	Total Bitrate(Mt	ops) Bitrate	TS Analysis	Service List			Channel : 1.1	
1.19	0.000	0.000	Normal	۲		•	# S	ervice	
1.20	0.000	0.000	Normal	0			1	21	
1.21	0.000	0.000	Normal	۲				2]	
1.22	0.000	0.000	Normal	۲			2	[4]	
1.23	0.000	0.000	Normal	۲			3	5]	
1.24	0.000	0.000	Normal	۲	i =	L 1	1		
1.25	0.000	0.000	Normal	۲					
1.26	0.000	0.000	Normal	۲					
1.27	0.000	0.000	Normal	۲	=				
1.28	0.000	0.000	Normal	۲					
1.29	0.000	0.000	Normal	۲					
1.30	0.000	0.000	Normal	۲	i =				
1.31	0.000	0.000	Normal	۲					
1.32	0.000	0.000	Normal	۲					
Channel 1	1 TS Analysis							Reset Counter	×
					Search			Q	
	PID B	itrate(Mbps)	Bandwidth(%)	Continuity Count Error	Тур	е		Service	
	0x0(0)	0.015	0.039	84	PAT	Γ			
	0x11(17)	0.015	0.039	37	SDT, I	BAT			
	0x30(48)	0.015	0.039	99	PMT	Г			
	0x31(49)	0.000	0.000	127	PCR, V	/ideo			
	0x34(52)	0.000	0.000	127	Audi	io			
	0x35(53)	0.000	0.000	57	Audi	io			

IP Output>CM2-QAM-R02 status also shows the IP output. Just like the IP Input, this shows the total bitrate and effective bitrate ofthe16 channels respectively. The TS Analysis and Service List have the same function as in the IP input. See image below for reference.

CM-QAM	A-R02					Sta	tus	Basic Setting	Multiplexing	System
							IP II	nput Modu	lation Output	IP Output
									Port	1 Port 2
Total Bitrate	: 26.983 Mbps									_
Channel	ID Address : Port	Effective Ditrate/M	Total Ritrato/Mb	Bitrata	TS Analysis	Service List				
Channer	IF Address . Fort	Lifective Ditrate(in	Total Ditate(mb	Ditrate	1 5 Analysis	Service List				
1.1	224.20.20.1 : 1234	0.090	26.983	Normal	۲					
1.2	0.0.0.0 : 0	0.000	0.000	Normal	0					
1.3	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.4	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.5	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.6	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.7	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.8	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.9	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.10	0.0.0.0 : 0	0.000	0.000	Normal	۲	I				
1.11	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.12	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.13	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.14	0.0.0.0 : 0	0.000	0.000	Normal	۲					
1.15	0.0.0.0 : 0	0.000	0.000	Normal	۲		-			

							IP Input	Modulation Output	IP Outp
									Por
Channel	IP Address : Port	Effective Bitrate(M	Total Bitrate(Mb	Bitrate	TS Analysis	Service List]		
1.3	224.20.20.3 : 1234	0.045	37.714	Normal	•	-			
1.4	224.20.20.4 : 1234	0.060	37.715	Normal	۲				
1.5	224.20.20.5 : 1234	0.060	37.714	Normal	۲				
1.6	224.20.20.6 : 1234	0.000	0.000	Normal	۲	I			
1.7	224.20.20.7 : 1234	0.000	0.000	Normal	۲				
1.8	224.20.20.8 : 1234	0.000	0.000	Normal	۲	I			
1.9	0.0.0.0:0	0.000	0.000	Normal	۲				
1.10	0.0.0.0:0	0.000	0.000	Normal	۲	=			
1.11	0.0.0.0:0	0.000	0.000	Normal	۲				
1.12	0.0.0.0:0	0.000	0.000	Normal	۲				
1.13	0.0.0.0 : 0	0.000	0.000	Normal	۲				
1.14	0.0.0.0:0	0.000	0.000	Normal	۲				
1.15	0.0.0.0:0	0.000	0.000	Normal	۲	=			
1.16	0.0.0.0:0	0.000	0.000	Normal	۲				

CM2-QAMA-R02 > Basic Setting

CM2-QAMA-R02 Basic Setting is where users input the parameters for IP Input, Modulation Output and IP Output.

IP Input-Parameter Setting> On this page, there are three tabs where you can modify the multicast IP, port and parameter of IP Input. There are *Port 1*, *Port 2*, and *Batch Setting*. The input can accept Multicast or Unicast and support MPTS and SPTS.

Port 1 and Port 2 have same interface. It shows the 512 channels. Check the box under *Enable* to enable a channel. Input the correct Multicast/Unicast IP address and IP port, and select the correct Protocol for the source IP. Once done, click *Apply* for the changes to take effect. See the image below for reference.

CM-QA	MA-R02	2					Status	Basic Setting Multiplexing
							IP II	nput Modulation Output
								Port
atch Settir	ng 🗸							
< 1	>							
Channel	Enable	Source Port	Destination IP Address	Destination Port	Protocol	Pkt Length	Enable Destination MAC	Destination MAC
1.1		1000	224.20.20.1	1234	UDP -	7	Disable	• 01:00:5E:14:14:01
1.2		1000	224.20.20.2	1234	UDP -	7	Disable	- 00:00:00:00:00
1.3	0	1000	224.20.20.3	1234	UDP -	7	Disable	• 00:00:00:00:00
1.4		1000	224.20.20.4	1234	UDP -	7	Disable	• 00:00:00:00:00
1.5	0	1000	224.20.20.5	1234	UDP -	7	Disable	• 00:00:00:00:00
1.6	0	1000	224.20.20.6	1234	UDP -	7	Disable	- 00:00:00:00:00
1.7		1000	224.20.20.7	1234	UDP -	7	Disable	• 00:00:00:00:00
1.8		1000	224.20.20.8	1234	UDP -	7	Disable	- 00:00:00:00:00
19	0	1000	224.20.20.9	1234	UDP -	7	Disable	• 00:00:00:00:00
1.0								

Batch Setting is where users can input the IP input parameters in batch. See the image below for reference.

							IP Input	Modulation O	utput IP Output
									Port 1 Port 2
atch Setting	^								1
Select All	I		Start Channel-	End Channel	1 - 2	56			
Enable	•	Disable 💌	Destination	IP Address	227.10.20.80 \$	ame 👻			
Protoc	ol	UDP 👻	Destination	Port	1234 S	ame 🔻			Apply
Enable	VLAN	Disable 👻	UIAN ID		1				
			TS Packets	Per IP Packet	7 👻				
				Daith Setting					
< 1	2 3 4	4 5 6 7 8 9	10 11 12 13	14 15 16 >		1			
Channel	2 3 4 Enable	4 5 6 7 8 9 Destination IP Add	10 11 12 13 Destination Port	14 15 16 > Protocol	TS Packets Per IP	VLAN Enable		VIAN ID	
Channel	2 3 4 Enable	4 5 6 7 8 9 Destination IP Add 227.40.50.88	10 11 12 13 Destination Port 1234	14 15 16 > Protocol UDP •	TS Packets Per IP 7	VLAN Enable	• 1	VIAN ID	
< 1 Channel 1.1 1.2	2 3 4 Enable	4 5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89	10 11 12 13 Destination Port 1234	14 15 16 > Protocol UDP ▼ UDP ▼	TS Packets Per IP 7 7 ▼	VLAN Enable Disable Disable	• 1 • 1	VIAN ID	
< 1 Channel 1.1 1.2 1.3	2 3 4 Enable © ©	4 5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89 227.40.50.90	10 11 12 13 Destination Port 1234 1234 1234 1234 1234	14 15 16 > UDP • UDP • UDP • • •	TS Packets Per IP 7	VLAN Enable Disable Disable Disable	 ■ 1 ■ 1 ■ 1 ■ 1 	VIAN ID	
< 1 Channel 1.1 1.2 1.3 1.4	2 3 4 Enable ? ?	4 5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89 227.40.50.90 227.40.50.91	10 11 12 13 Destination Port 1234 1234 1234	14 15 16 > UDP • • • •	TS Packets Per IP 7	VLAN Enable Disable Disable Disable Disable	 ▼ 1 ▼ 1 ▼ 1 ▼ 1 	VIAN ID	
< 1 Channel 1.1 1.2 1.3 1.4 1.5	2 3 4 Enable ? ? ? ?	4 5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89 227.40.50.90 227.40.50.91 227.40.50.91 227.40.50.91 227.40.50.92	10 11 12 13 Destination Port 1234 1234 1234 1234 1234 1234 1234	14 15 16 > UDP • UDP • UDP • UDP • UDP • UDP • UDP • UDP •	TS Packets Per IP 7 7 7 7 7 7 7 7 7	VLAN Enable Disable Disable Disable Disable Disable	 1 1 1 1 1 1 1 	VIAN ID	
 1 Channel 1.1 1.2 1.3 1.4 1.5 1.6 	2 3 4 Enable 2 2 2 3 4 2 3 4 3 2 3 4 3 3 4 3 3 4 3 3 4 3 4	4 5 6 7 8 9 Destination IP Add 227.40.50.88 227.40.50.89 227.40.50.91 227.40.50.91 227.40.50.91 227.40.50.91 227.40.50.92	10 11 12 13 Destination Port 1234 1234 1234 1234 1234 1234 1234 1234 1234 1234 1234	14 15 16 Protocol UDP • UDP •	TS Packets Per IP 7 7 7 7 7 7 7 7 7 7 7 7 7	VLAN Enable Disable Disable Disable Disable Disable Disable	 1 1 1 1 1 1 1 1 	VIAN ID	

Modulation Output-Parameter Setting>On this page, you can enable channels as you need and input the Frequency (KHz), QAM Mode, Symbol Rate (KBaud) and RF Level Gain (dBmV) to have an output.

CM-QA	MA-R02	2			Status Basic Setting Multiple	king Syste
Batch Sattir					IP Input Modulation Outp	ut IP Outp
RF Level:	40	(dBmV 🖲 dBuV)	PSI/SI Interval(ms): 100			Apply
Channel	Enable	Frequency(KHz)	QAM Mode	SymbolRate(KBaud)	RF Level Gain (dB)	
1.1		57000	QAM64	▼ 5057	0	
1.2		63000	QAM64	▼ 5057	0	
1.3		69000	QAM64	▼ 5057	0	
1.4		79000	QAM64	▼ 5057	0	
1.5		85000	QAM64	▼ 5057	0	
1.6		177000	QAM64	▼ 5057	0	
1.7		183000	QAM64	▼ 5057	0	
1.8		189000	QAM64	▼ 5057	0	
1.9		195000	QAM64	▼ 5057	0	
1.10		201000	QAM64	▼ 5057	0	
1.11		207000	QAM64	▼ 5057	0	

Here is the range parameter of the above info.

Name	Range	Name	Range
Symbol Rate	3600~3956	RF level gain	-10`~0 (multiples of 0. 5)
Frequency (KHz)	48000~862000	QAM Mode	QAM16/QAM32/QAM6 4/QAM128/QAM256

You can also set the RF level in a range of 85 to 112 as shown in the image below.

Information	×
RF Level input error, Please re-enter an integer between 85 and 112!	
	K

Batch Setting is where you can input the modulation parameters in batch. See the image below for reference.

					IP Input Modulation Output	IP Ou
atch Settin	ng ^					
Select A	JI		Start Channel-End Channel	1 - 32		(AP)
Enable	le	Disable 💌	Start Frequency	48000		
Band	width	7 -	QAM Mode	QAM32 👻		
Symbol	olRate	6875				
			Batch Setting			
F Level(d	BmV): 105	5 PSI/SI	nterval(ms): 100			
F Level(d Channel	BmV): 105 Enable	5 PSI/SI Frequency(KHz)	nterval(ms): 100 QAM Mode	SymbolRate(KBaud)	RF Level Gain (dBmV)	
F Level(d Channel 1.1	BmV): 105 Enable	5 PSI/SI Frequency(KHz) 474000	Interval(ms): 100 QAM Mode	SymbolRate(KBaud)	RF Level Gain (dBmV)	
F Level(d Channel 1.1 1.2	BmV): 105 Enable @	5 PSI/SI Frequency(KHz) 474000 208000	QAM Mode QAM64 QAM64	SymbolRate(KBaud) 6875 6875	RF Level Gain (dBmV)	
F Level(d Channel 1.1 1.2 1.3	BmV): 105 Enable @	5 PSI/SI Frequency(KHz) 474000 208000 216000	nterval(ms): 100 QAM Mode QAM64 QAM64 QAM64	SymbolRate(KBaud) 6875 6875 6875	RF Level Gain (dBmV) 0 0 0 0 0 0	
F Level(d) Channel 1.1 1.2 1.3 1.4	BmV): 105 Enable C	5 PSI/SI Frequency(KHz) 474000 208000 216000 224000	nterval(ms): 100 QAM Mode QAM64	SymbolRate(KBaud) 6875 6875 6875 6875	RF Level Gain (dBmV) 0 0 0 0 0 0 0	
F Level(d) Channel 1.1 1.2 1.3 1.4 1.5	BmV): 105 Enable C C C C C C C C C C C C C C C C C C C	5 PSWSI Frequency(KHz) 474000 208000 216000 224000 490000	nterval(ms): 100 QAM Mode QAM64	SymbolRate(KBaud) 6875 6875 6875 6875 6875	RF Level Gain (dBmV) 0 0 0 0 0 0 0 0 0 0 0	
Channel 1.1 1.2 1.3 1.4 1.5 1.6	BmV): 105 Enable C C C C C C C C C C C C C C C C C C C	5 PSI/SI Frequency(KHz) 474000 208000 216000 224000 490000 240000	nterval(ms): 100 QAM Mode QAM64	SymbolRate(KBaud) 6875 6875 6875 6875 6875 6875	RF Level Gain (dBmV) 0 0 0 0 0 0 0 0 0 0 0 0 0	

IP Output-Parameter Setting> On this page, there are three tabs where you can modify the multicast IP, port and parameter of IP Output. There are *Port 1*, *Port 2* and *Batch Setting*. The output can accept Multicast or Unicast and support MPTS and SPTS.

Port 1 shows the 16 channels. Check the box under Enable to enable a channel. Input the correct Multicast/Unicast IP address, IP port and appropriate output bitrate, and select the correct Protocol for the output IP. Once done, click *Apply* for the changes to take effect. See the image below for reference.

CM-QA	MA-R02	2					Status Ba	sic Setting Multip
							IP Inp	ut Modulation Ou
3atch Settir	ng 🌱							
Channel	Enable	Source Port	Destination IP Address	Destination Port	Protocol	Pkt Length	Enable Destination MAC	Destination MAC
1.1		1000	224.20.20.1	1234	UDP -	7 🔹	Disable	01:00:5E:14:14:01
1.2		1000	224 20 20 2	1234	UDP -	7 👻	Disable	00:00:00:00:00:00
1.3	O	1000	224.20.20.3	1234	UDP -	7 •	Disable 👻	00:00:00:00:00:00
1.4	0	1000	224.20.20.4	1234	UDP -	7 💌	Disable	00:00:00:00:00:00
1.5	0	1000	224.20.20.5	1234	UDP -	7 🔻	Disable	00:00:00:00:00:00
1.6	0	1000	224.20.20.6	1234	UDP -	7 👻	Disable 👻	00:00:00:00:00:00
1.7	O	1000	224.20.20.7	1234	UDP -	7 -	Disable	00.00.00.00.00
1.8		1000	224.20.20.8	1234	UDP -	7 👻	Disable	00:00:00:00:00:00
10		1000	224 20 20 9	1234		7 -	Disable	00.00.00.00.00.00

Batch Setting is where you can input the IP output parameters in batch. See the image below for reference.

							IP Input Modulation Outp
ch Setting	^						
Select A	All		Start Channel-End C	hannel 1	- [16	
Enab	le	Disable	Destination IP Ad	dress 22	7.10.20.80	Same 👻	
Source	ce Port	1000	Destination Port	123	34	Same 👻	
Proto	ocol	UDP	TS Packets Per IP	Packet 7	Ŧ		
Bitrat	te	25	Enable Destination Batch Set	n MAC Dis	sable 💌	AA:BB:CC:DD:EE:	
Bitrat	> Enable	25 Source Port	Enable Destinatio Batch Set Destination IP Address	In MAC Disting	Protocol	AA:BB:CC:DD:EE: TS Packets Per IP Packet	Enable Destination MAG
Bitrat	te > Enable ⊛	25 Source Port 1000	Enable Destinatio Batch Set Destination IP Address 224.20.20.1	n MAC Disting Destination Port 1234	Protocol UDP +	AA:BB:CC:DD:EE: TS Packets Per IP Packet 7	Enable Destination MAC
Bitrat	te > Enable ⊘ €	25 Source Port 1000 1000	Enable Destinatio Batch Set Destination IP Address 224.20.20.1 224.20.20.2	Destination Port	Protocol UDP + UDP +	AA:BB:CC:DD:EE: TS Packets Per IP Packet 7 ▼ 7 ▼	Enable Destination MAC Disable
Bitrat Bitrat Channel 1.1 1.2 1.3 	Enable	25 Source Port 1000 1000	Enable Destinatio Batch Set Destination IP Address 224.20.20.1 224.20.20.2 224.20.20.3	n MAC Dis ting Destination Port 1234 1234 1234 1234	Protocol UDP UDP UDP	AA:BB:CC:DD:EE: TS Packets Per IP Packet 7	Enable Destination MAC Disable Disable
Bitrat	Enable	25 Source Port 1000 1000 1000 1000	Enable Destinatio Batch Set Destination IP Address 224.20.20.1 224.20.20.2 224.20.20.3 224.20.20.4	n MAC Dis ting Destination Port 1234 1234 1234 1234	Protocol UDP UDP UDP UDP UDP UDP UDP	TS Packets Per IP Packet 7 7 7 7 7 7	Enable Destination MAC Disable Disable Disable Disable

CM2-QAMA-R02 > Multiplexing

Multiplexing has four tabs: *Source*, *Service Configuration*, *SI Table Setting* and *PID Transmission*. Here you are can set to output services from IP Input to Modulation Output. Click *Multiplexing* to see 32 modulation output channels. Select a channel you want to configure and you will see *Source* setting of this channel.

CM-QA	MA-F	R02																	Status	Basic Setti	ng Multiple
Output C	Channe	ł																			
1 2 17 18	3 19	4 20	5 21	6 22	7 23	8 24		9 25	10 26	11 27	12 1 28 2	13 29	14 30	15 31	16 32						
Source	Serv	vice Co	nfigura	ation	PSIP	PI	D Trai	nsmiss	sion												
Port 1	Po	ort 2																			
1 - 32	33	- 64	65	- 96	97 - 1	128	129 -	160	161	- 192	193 - 2	224	225	- 256							
257 - 288	289	- 320	321	- 352	353 -	384	385 -	416	417	- 448	449 -	480	481	- 512							
Please tio	ck the i	input c	hanne	el to ge	t the s	ource	of the	e proç	Iram	C	Select	All									
1.1	1.2		1.3	1.4		1.5	0	1.6	1	.7	1.8	0	1.9		1.10	1.11	1.12	1.13	0 1.14	1.15	1.16
) 1.17 (1.18		1.19	1.2	0 🗆	1.21		1.22	1	.23	1.24		1.25		1.26	1.27	1.28	1.29	1.30	1.31	1.32
canning 1	lime(m	is): 1	000				Set	1													
			S	ource					ECN	1/EMN	I Filter		RF	Outpu	ut[1] 5	7000KHz	5057KBa	ud		[0.0	90/27.962M]
				0000				20							Sourc	e		Service	Name		8
	.3] 239	192.1	0.202:1	10000					4	3 🗆	Bypass		1		1.2			[149] DA VIN	CI KIDS HD		×
	41.000	102.0	205-10	1000					6	8 10	Puppage		2		1.1			[183] HI	BO HD		×
	[1] Lin	Svnc	1080i	0000					*		bypass	1	3		1.4			[1] LipSyr	nc_1080i		×
													4		1.3			[166] KC CH	IANNEL HD		×

Multiplexing-Source> Source is where you select a source for output. You can chose *Port 1* **2** for the source. Each port is divided into 16 groups to complete 512 channels. Select a Port and you can see service lists of Group and Channel as shown below.

CM-C	AMA	-R02	2														Status	Basic Settin	Multiplexing
Output	Chan	nel																	
1	2	3	4	5 6	7	8	9	10	11 12	13	14	15	16						
17	18 1	9 2	20 2	21 22	23	24	25	26	27 28	29	30	31	32						
Source	S	ervice	Confia	uration	PSIP	PI	D Transmis	sion											
Port 1		Port 2																	
1 - 32		33 - 64	(65 - 96	97 -	128	129 - 160	161 -	192 19	3 - 22	24 225	5 - 256							
257 - 28	8 28	39 - 32	0 32	21 - 352	353 -	384	385 - 416	417 -	448 44	9 - 48	80 481	- 512							
Please	tick th	e inpu	t char	nel to g	et the s	ource	of the pro	gram	Sele	ect Al	I								
1.1	2 1.	2	1.3	2 1.	4 () 1.5	1.6	1.7		8	1.9	\Box	1.10	1.11	1.12	1.13	1.14	1.15	1.16
1.17	□ 1.	18 [1.19	01	20	1.21	1.22	1.2	3 🗆 1	24	1.25		1.26	1.27	1.28	1.29	1.30	1.31	1.32
canning	Time	(ms) :	1000				Set												
				Source			3	ECM/	EMM Filte	er	RF	Outpu	ut[1] 5	7000KHz	5057KBau	ıd		[0.09	0/27.962M]

To output the service on the Modulation Output, you can simply put a tick in the box beside the service you want to output. You can output multiple Service from different Source bypass the TS to Modulation output.

Source	ECM/EMM Filter		RF Ou	tput[1] 474000KHz 6875KBaud	
			Source	Service Name	8
□ [1.4] 227.40.50.91:1234	🗘 🗆 Bypass	1	1.1	[3]	×
	<i>C</i> = 5	2	1.1	[4]	*
[] [1.1] 227.40.50.88:1234 [] [2] [3]	U Bypass	3	1.1	[5]	*
		4	1.4	[1] LipSync_1080i	×

To Output the TS by Bypass mode, you can simply check the **Bypass** box of the TS. You can only bypass 1 TS and cannot output other services from different channel sources. Bypass mode allows you to keep the input signal automatically be redirected to Modulation output without re-scanning the input or transferring it to output.



Multiplexing-Service Configuration> After output the services from IP input to Modulation output, you can now edit the Service ID and other PID on the output. Click on the Service Configuration to see this page, it shows the output service on this channel only.

	IOD-02													St	itatus	Basic Setting	Multiplexing	Scrambling	Sy
Output	Channe	1																	
1 2	2 3	4	5 6	7	8		10	11	12	13	14	15	16						
17 1	8 19	20	21 22	23	24	2	5 26	27	28	29	30	31	32						AD
								-											C
Source	Servi	ice Conf	liguration	SIIa	ole Sett	ng	PID I ra	nsmiss	ion										
	-																		
																			CI
Please	click "Apr	plv" afte	r modifvin	parame	eters. O	therw	se, new (configu	ration	can no	t be sa	aved.							Cle
Please	click "App	ply" after	r modifyin) parame	eters. O	therw	se, new (configu	ration	can no	t be sa	aved.						×	Cle
Please	click "App	ply" afte	r modifyin) parame	eters. O	therw	se, new (configu	ration	can no	t be sa	aved.						×	Cle
Please	click "App	ply" after	r modifyin C) parame utput	eters. O	therwi	se, new (configu ditTS	NIT BA	can no	t be sa	aved.						×	Cle
Please	click "App Source	ply" after ce	r modifyin C) parame utput	eters. O Servi	therwi	se, new (E me	configu ditTS	NIT BA	can no	t be sa	aved.						×	Cle
Please	click "App Sourc	ply" after ce	r modifyin C) parame	eters. O Servi	therwitherwitherwitherwitherwitherwitherwitherwitherwitherwitherwitherwitherwitherwitherwitherwitherwitherwithe	se, new (E me	configu ditTS	ration (can no	t be sa	aved.						×	Cle
Please	click "App Source 1.1 1.1	ply" after ce	r modifyin C) parame	eters. O Servi	therwind ce Na [3]	se, new o E me	configu ditTS	NIT BA	can no	t be sa	aved.						×	Ch
Please	Click "App Source 1.1 1.1 1.1	ply" after	r modifyin C) parame	eters. O Servi	therwine ce Na [3]	se, new (E	iditTS	NIT BA	can no	t be sa	aved.						x	Che

You can click the Name of the service and it will show a table where you can modify some information of the service like Service ID, Service Name, Service Provider, PCR2 PMT AUDIO and Video PID. Click OK & Apply for the changes to take effect.
		Output	EditTS NIT BAT		[1.1] TS >> LipS	ync_1080i
	Source	Service Name			Original Value	Value
1	1.1	13]		Service ID	1	1
2	1.1	[4]		Service Name		LipSync_1080i
4	1.4	[0]		Service Provider		Harmonic
				PCR PID	512	512
				PMT PID	256	256
				Video(H264)	513	513
				Audio	4112	4112
				Private Data/AC3	4114	4114
						ancel
						ancei

Here you can also edit the Original Network ID and TS ID of the Modulation Output.

	Output EditTS NIT BA	π		[1.1] TS	
Source	Service Name	Origin	al Network ID	1	
1.1	🖍 [3]Program-1	TS ID		1	
1.1	🖍 [4]Program-2				
1.1	🖍 [5]bbPBR	NO.	Service ID	Service Name	Service Provide
1.4	X [1]LipSync_1080i	1	3	Program-1	
		2	4	Program-2	
		2	5		
		5	5	DUFDIX	

Here you can also edit NIT and create NIT Network for the OTA upgrade.

		Output EditTS NIT BAT				
	Source	Service Name	NIT Network NIT S	Stream NIT Other		
1	1.1	✓ [3]Program-1	Tag(Hex)			
2	1.1	🖍 [4]Program-2	Data(Hex)			
3	1.1	🖍 [5]bbPBR		Ad	d	
4	1.4	🖍 [1]LipSync_1080i				
			Tag(Hex)	Data(Hex)	Length	Operation
			40	123	3	×

Still in NIT, you can also create NIT Streams and generate LCN for channel list and Cable Descriptor for frequency auto search.

		Output EditTS NIT	BAT NIT Notwork	NIT Stro	am NIT Other	
	Source	Service Name	Original Net	work ID	2	
1	1.1	✓ [3]Program-1 ✓ [4]Program-2	TS ID		2	
3	1.1	/ [5]bbPBR			Add	
4	1.4	🖍 [1]LipSync_1080i				
			Original	TS ID	Descriptor	Operation
			1	1	1 tag:0x44 🗙 🗹 2 tag:0x83 🗙 🗹	× +Descriptor
			2	2		LCN Descriptor
						Cable Descriptor

For the LCN Descriptor: input the Service ID and the LCN for the channel line-up of the services.

For the Cable Descriptor: input the correct frequency and Symbol Rate for the corresponding TS output. Cable descriptor depends on the setup you use. Mostly, Cable descriptor is created for 1 TS only. Some configuration need to be created in each TS.

Still in NIT, you can also create NIT Other.

Please	'lease click "Apply" after modifying parameters. Otherwise, new configuration can not be saved. ×										
		Output Edit1	TS NIT BAT								
	Source Service Name			NIT Network NIT Stream	n NIT Other						
1	1.1	🖍 [3]Program-1		Network ID	1234						
2	1.1	🖍 [4]Program-2		Version Number	0						
3	1.1	🖍 [5]bbPBR			OK						
4	1.4	🖍 [1]LipSync_1080i									

Here you can also create BAT.

		Output	EditTS NIT BAT		[1.1] BAT	
9	Source	Service Name		Bouquet Id		
1	1.1	🖍 [3]Program-1		Bouquet Name		
2	1.1	💉 [4]Program-2				
3	1.1	💉 [5]bbPBR			Add	
4	1.4	🖍 [1]LipSync_1080i				

Multiplexing-SI Table Setting> This page is to choose whether to insert/generate the SI tables or Copy the SI tables from the input streams.

1 2 3 4 5 6 7 17 18 19 20 21 22 23	8 9 10 24 25 26	11 12	13	14	15	16
17 18 19 20 21 22 23	24 25 26					
	21 20 20	27 28	29	30	31	32
Source Service Configuration SI Tab	ble Setting PID Trans	smission				
Output [1	1.1]					
⊘PAT Insert	EIT Shared					
	CAT Shared					
SDT Insert	SDT Shared					
✓TDT Insert	TDT Shared					
TOT Insert	TOT Shared					
BAT Insert	BAT Shared					
■NIT Insert	NIT Shared					
Source [1.1]:227.40.50.88	: 1234		•			

Multiplexing-PID Transmission> This page is to transmit the input PID to Output on the PID required by the system.

Output Channel			
1 2 3 4 5 6 17 18 19 20 21 2	5 7 8 9 10 11 12 13 2 23 24 25 26 27 28 29	14 15 16 30 31 32	
Source Service Contiguration	Input PID Iransmission	Delete Input	
	No Data	Output PID	32 Creat
			Add Delete All

CM2-QAMA-R02 > Scrambling

CM2-QAMA-R02 Scramble is where you can encrypt a service on the Modulation Output. Scrambler can be connected 6 different CAS simultaneously. There are seven tabs on this page namely Service Scrambling and CAS1 to CAS6. 6 CAS tabs have the same interface.

Input the correct CA parameters on this page and make sure the ECMG and EMMG are connected GREEN. Some CA will provide a Super CAS ID with 8 digits. This is a combination of the 4-digit CAS System ID and 4-digit of ECMG Sub System ID.

CM-QAMA-R02				Status Basic Setting Multiplexing Scra				
				Service Scrambling CAS 1 CAS 2 CAS 3 CAS 4				
nable	Enable 💌	ECM Stream ID	12	ECM ID 12 ECM PID 4011				
	Staus	AC Data(Hex)	00010001	000100014010				
tatus	ECMG 😝 EMMG 🗑	Export		Browse Import				
ount	0 0	Stream ID ID	PID	AC Data(Hex)				
ption Period(s)	30	1 1	4000	000100014000 * 4				
ent Period	0	2 2	4001	000100014001 *				
	ECMG	3 3	4002	000100014002 *				
System ID	Dec 5218 Hex 1462	4 4	4003	000100014003				
G Sub System ID	Dec 0 Hex 0	5 5	4004	000100014004				
GIP Address	192.168.1.199		4005	000100014005				
G Port	5500	7 7	4008					
G Channel ID	1	, , ,	4000					
	EMMG		4007					
AG TCP Port	6000	0 0	4008	0001000100014008				
MC UDD Dort	7000	10 10	4009	0001000100014009 *				
ING ODP POIL	7000	11 11	4010	0001000100014010 🗶 🗸				
AM Send Type	ICP++UDP ▼							
IM PID	4097							
MM Bandwidth	500							

Service Scrambling>On this page, you can encrypt a service in the Modulation Output. Select a channel for output and you will see a service list. The module supports up to 6 different CA, select one of them for encryption as you need, then select the CA ID of the service. Click *Apply* to finish setting.

											CAS	1 CAS 2	CAS 3	CAS 4	Servic	e Scrambling
0ι 1	itput Cł	annel 3 4 5											Scram	bled service	ə: O	Apply
Ser	vice So	rambling Setting											1	Batch Setti	ng 🗡	
	NO.	SERVICE(12)	CAS	1	CAS	2	CAS	3	CA \$4							
	1		None	-	None	Ŧ	None	Ŧ	None	Ŧ					-	
	2	■ □ [CH:1] > [4]	None 1		None	Ŧ	None	Ψ	None	T						
	3	■ 🔲 🚞 [CH:1] > [5]	2		None	Ŧ	None	Ψ	None	Ŧ						
	4		4		None	•	None	Ŧ	None	•						
	5	■ □ [CH:2] > [3]	6		None	Ŧ	None	Ŧ	None	Ŧ						
	6		None	Ŧ	None	Ŧ	None	Ŧ	None	Ŧ						
	7	■ 🔲 🚞 [CH:2] > [5]	None	Ŧ	None	Ŧ	None	-	None	Ŧ						
	8		None	Ŧ	None	•	None	Ŧ	None	•						
	9		None	Ŧ	None	Ŧ	None	Ŧ	None	Ŧ						
	10		None	Ŧ	None	Ŧ	None	Ŧ	None	Ŧ						
	11		None	Ŧ	None	Ŧ	None	Ŧ	None	Ŧ						
	12	■ □ □ [CH:5] > [4]	None	Ŧ	None	~	None	Ŧ	None	-						

The Modulation Output Channel will only list the enabled channels but not all 32 channels. If the channels and CA ID to be used are arranged in a chronological order, you can use **Batch Setting** for

faster encryption. This is advisable if you have 10 or more services in a single channel for output. See the image below for reference.

Output Channel						Scrambled service: 0	
1 2 3 4 5							
Service Scrambling Setting						Batch Setting ^	
When the number of programs exceeds the number	r of CASs th	at can be alloc	ated, the C/	AS setting will re	epeat.	×	Apply
Select Batch Setting Parameter Auto Assig	1	Start Service	Number ~	End Service N	umber		
Service Ø							
CAS1 None							
CAS2 None -		1		~ 5		Ж	
CAS3 None 👻							
CAS4 None -							
NO. SERVICE(12)	CAS	1 C	A \$2	CA \$3	CA \$4		
1 🔹 💌 🧫 [CH:1] > [3]	1	▼ None	Ŧ	None 🔻	None 💌	A	
2 ● 🗹 🚞 [CH:1] > [4]	2	None	Y	None *	None 💌		
3 ● 🗹 🚞 [CH:1] > [5]	3	▼ None	Ŧ	None 🔻	None 🔻		
4	4	 None 	•	None 👻	None 💌		

CM2-QAMA-R02 > System

CM2-QAMA-R02 System is composed of two sub menus namely Network and License.

Network> Here you can modify the IP Address, Subnet Mask and Gateway for each port of the module, except for the address of the module itself. This also shows the MAC Address of each port of the module. See the image below for reference.

CM-QAM	A-R02				Status	Basic Setting	Iultiplexing System
							Network Setting
Port	IP Address	Subnet Mask	Gateway	MAC Address	Link Speed	Link Status	
NMS	192.168.1.24	255.255.255.0	192.168.1.254	A0:69:86:06:38:06			Арру
CAS	192.168.2.10	255.255.255.0	192.168.2.254	A0:69:86:06:38:07	auto 👻	link down	
DATA1	192.168.3.10	255.255.255.0	192.168.3.254	A0:69:86:06:38:08	auto	link down	
DATA2	192.168.4.10	255.255.255.0	192.168.4.254	A0:69:86:06:38:09	auto	link down	

License>Here you can import/export *license*, reboot module, *restore factory default settings* and *manage logs*.

CM-QA	AMA-R02			Status	Basic Setting	Multiplexing	System
						Network	Setting
Program	Auto Scan						
	Enable	□ Set					
Clear all	channel configuration						
		Clear					
Configur	ation						
	Import Configuration		Browse Upload				
	Export Configuration	Export					
License							
	Product ID	DF3099990031					
	Import License		Browse Upload				
	Export License	Export					
Logs							
	Open						
SNMP MIE	B						
	Export MIB	Export					
Others							
	Reboot	Read to Connection					

Log Manage>This page shows the logs of the module. If there are issues encountered on this module, exporting the logs will help R&D team to analyze and fix them.

Turn on *Enable Real-time Log* switch to see the real time log messages and the severity level of each message below.

CN	I-MOD-02			Status	Basic Setting	Multiplexing	Scrambling	System
							Network	License
Back	<u>क</u> न	⊥ Ena	ble Real-time Log: ON				Filte	r: 🔻
	Level		Messa	ige				
					Tips: �Debug	Information	A Warning	C Error
	Click	۵	to clear all log messages on the scree	en.				
	Click	Ē	to delete all log information.					
۶	Click	_ ±	to export log information.					

> Click T to filter desired log messages.

Clicking the filter	icon, you	can simply	select what	logs to	be included.
---------------------	-----------	------------	-------------	---------	--------------

Lev	/el				
Level	Operation				
Error					
Warning					
Information					
Debug					
Module List					
Module Name	e List Operation				
Module SYS	e List Operation 🕜				
Module Name SYS PARAMS	e List Operation e				
Module Name SYS PARAMS UPGRADE	e List Operation If I and I an				
Module Name SYS PARAMS UPGRADE TSPROCESS	e List Operation If and the second se				
Module Name SYS PARAMS UPGRADE TSPROCESS SIPROCESS	e List Operation Ø Ø Ø Ø Ø				

CM2-QAMA-02 is as same as CM2-QAMB-02, In addition to supporting the scrambling function, it is not a default authorization and requires additional authorization

5.3.10 CM2-QAMA-R01/R01A

CM2-QAMA-R01 / R01A module supports modulating 4/8 adjacent channels with 1 RF female port for modulating output.

CMP201A User Guide



CM2-QAMA-R01>Basic Setting

CM2-QA	MA-R01					Status Basic Setting	Outpu
RF Level:	25	(dBmV ● dBuV ⊂) PSI/SI Interval(ms):	50			
Channel	Enable	Frequency(KHz)	QAM Mode		SymbolRate(KBaud)	Bandwidth(MHz)	
1.1		474000	QAM64	•	5185	6	- App
1.2		482000	QAM64	•	5185	6	
1.3		490000	QAM64	•	5185	6	-
14		498000	QAM64	-	5185	6	-

Click the *Apply* button on the right side to make the change take effect.

Name	Range	Name	Range
Symbol Rate (KBaud)	3780~6956	PSI/SI Interval (ms)	50~10000
RF level	25~45dBmV/85~105dB μ V	Frequency (KHz)	47000~862000
QAM Mode	QAM16/32/64/128/256		

CM2-QAMA- R01/R01A>Output

QAM Output will be different from the Receiver and Encoder module. Since the QAM module is an output module like IP output, all service configured in receiver, encoder and IP input will be seen here.

> TS setting: Please refer to IP output service configuration.

- LCN setting: You need to add NIT streams of all frequencies in the base TS (frequency), which is used for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency).Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add*to create a NIT stream for this TS (frequency).
 - Click +*Descriptor*then LCN Descriptor to check all the programs which are contained in this frequency. Then set programs LCN.

NIT Netwo	rk NIT S	[1.1] NIT		Apply		
Original Net	twork ID ID	0		Clear	LCN Select Serv	vice
TS ID		0		Config	Service ID LCN Visible Service Flag	
		Add				
Origin	TS ID	Descriptor	Operation			
0	0	1 tag:0x83 X 🗹 2 tag:0x44 X 🗹	LCN Descriptor			
0	1	1 tag:0x83 🗰 🗹 2 tag:0x44 🗮 🗹	× +De Cable Descripto	or 🗖	\Rightarrow	
0	2	1 tag:0x83 ¥ ☑ 2 tag:0x44 ¥ ☑	× +Descriptor			
0	3	1 tag:0x83 🗙 🗹 2 tag:0x44 🗶 🕅	× +Descriptor		OK Close	

Complete ID						
Service ID	Service Name		Service ID	LCN	Visible Service Flag	0
1	Program 01		1	1	Visible	×
2	Program-02		2	2	Visible	≫
2	Program 02		3	3	Visible	×
	1 2 3	1 Program 01 2 Program-02 3 Program-03	1 Program-01 2 Program-02 2 3 Program-03 2	1 Program 01 2 1 2 3 Program-03 2 3	1 Program 01 Image: Constraint of the constra	1 Program 01 Image: Constraint of the constra

• Click +*Descriptor* and *Cable Descriptor*. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency). Then click *OK* (this operation should be set on Modulator module only).

	Cable Descriptor	Cottingo	0
Frequency(KHz)	SymbolRate(Ksymb	Constellati	on
200000	6875	QAM256	-

 Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click *Apply* to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN you set.

5.3.11 CM2-8VSB-R01/R01A

CM2-8VSB-R01 / R01A module supports up to 4/8 8VSB adjacent frequencies modulating with 1 RF connector for output.



Module configuration is similar to IP Setting.

CM2-8VSB-R01>Basic Setting

CM2-8VS	SB-R01						Status	Basic Setting	Output	System
RF Level:	40		(dBmV ⊛ dBuV ☉)	PSI/SI Interval(ms): 100		Channel Standard: OFF-AIR -				
Channel	Enable				Frequency					
1.1		CH2-57MHz							•	Apply
1.2		CH2-57MHz							•	
1.3		CH2-57MHz							•	
1.4		CH2-57MHz							-	

Click the Apply button on the right side to make the change take effect.

Name	Range	Name	Range
RF level (1=0.5dB)	15~48	PSI/SI Interval (ms)	50~10000

Channel Standard	OFF-AIR	Frequency (KHz)	CH2-57MHz
	STD		~
	IRC		CH69-802MHz
	SRC		

CM2-8VSB-R01/R01A >Output

- > TS setting: Please refer to IP output service configuration.
- To use this board, you need to change the Standard to ATSC in Advance Settings-System Settings.
- > Don't forget to click **APPLY** when you finish configuration.

		Status	System Settings	IP Input	IP Output	R agent +
System Settings		Network Time	System Password	NMS Register	Advance Settings	SNMP
Standard		ATSC	• 9			
Language		English	• 0			Apply
Authorized	Use Time	Stay With First Level Authorize	ed Time 🔻 Never ex	(pires		
Destination	Module Number	4	• 9			
CA Descrip	tor Filter	Disable	• 9			
PAT Sync U	lpdate	Disable	• 9			
VLAN Enat	le	Disable	• 9			

5.3.12 CM2-QAMB-R01/R01A



CM2-QAMB-R01 / R01A module supports up to 4/8 adjacent frequencies modulating with 1 RF female connector for output.

Module configuration is similar to IP Setting.

CM2-QAMB-R01/R01A>Basic Setting

CM2-QA	MB-R01				Status	Basic Setting Out	tput System
RF Level:	40	(dBmV ⊛ dBuV	• • • • • • • • • • • • • • • • • • •	Channel Standa	ard: STD 👻		
Channel	Enable	Frequency		QAM Mode	SymbolRate(KB	aud)	
1.1		CH2-57MHz	▼ QAM256	•	5361		Apply
1.2		CH2-57MHz	▼ QAM256	•	5361		
1.3		CH2-57MHz	 QAM256 	Ŧ	5361		
1.4		CH2-57MHz	 QAM256 	•	5361		

Click the *Apply* button on the right side to make the change take effect.

Name	Range	Name	Range
Symbol Rate (KBaud)	5057 (QAM64)	PSI/SI Interval (ms)	50~10000
	5361 (QAM256)		
RF level	25~45dBmV/85~105dB μ V	Frequency (KHz)	48000~862000
QAM Mode	QAM64/256		

CM2-QAMB-R01>Service Configuration

- > TS setting: Please refer to IP output service configuration.
- LCN setting: You need to add NIT streams of all frequencies to the base TS (frequency), which is for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency)., Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click +*Descriptor* then *LCN Descriptor* to check all the programs which are contained in this frequency. Then set programs LCN.

T Netwo	rk NIT S	[1.1] NIT	î	Apply	
Driginal Net SID	work ID ID	0		Clear Config	Service ID
Origin	TS ID	Add	Operation		
0	0	1 tag:0x83 🗱 🗹 2 tag:0x44 🕱 🖸	LCN Descriptor	-	
0	1	1 tag:0x83 🗶 🗭 2 tag:0x44 🗶 🗭	Cable Descriptor		\Rightarrow
0	2	1 tag:0x83 X 🗹 2 tag:0x44 X 🗹	* +Descriptor		
0	3	1 tag:0x83 🗰 🗹 2 tag:0x44 🗮 🕅	× +Descriptor		

Service ID	Service Name		Service ID	LCN	Visible Service Flag	0
1	Program 01		1	1	Visible	×
2	Program-02		2	2	Visible 🗨	≻
3	Program-03		3	3	Visible	×
	Service ID 1 2 3	Service ID Service Name Service Name 1 Program 01 2 Program-02 3 Program-03	Service ID Service Name 1 Program 01 2 Program-02 3 Program-03	Service ID Service Name Image: Constraint of the service ID 1 Program 01 Image: Constraint of the service ID 2 Program-02 Image: Constraint of the service ID 3 Program-03 Image: Constraint of the service ID	Service ID Service Name Image: Constraint of the service ID LCN 1 Program 01 Image: Constraint of the service ID 1 1 2 Program 02 Image: Constraint of the service ID 1 1 3 Program 03 Image: Constraint of the service ID 3 3	Service ID Service Name Image: Service ID LCN Visible Service Flag 1 Program-01 Image: Service ID 1 Visible Image: Service ID 2 Program-02 Image: Service ID 1 Visible Image: Service ID 3 Program-03 Image: Service ID 1 Visible Image: Service ID

• Click +Descriptor and the Cable Descriptor. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency). Then click **OK**. (This operation should be set on Modulator module only).

Frequency(KHz)	SymbolRate(Ksymb	Constellation
0000	6875	QAM256

• Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click *Apply* button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN which you set.

5.3.13 CM2-OFDM-R01/R01A

CM2-OFDM-R01 / R01A module supports up to 4/8 adjacent frequencies modulating with 1 RF female connector for output.



Module configuration is similar to IP Setting.

CM2-OFDM-R01>Basic Setting

M2-OF	DM-R01					Stat	tus Basic Setting	Output
F Level:	40	(dBmV	● dBuV ◯)					
Channel	Enable	Frequency(KHz)	Bandwidth(MHz)	FFT Mode	GI Mode	QAM Mode	Convolutional Coding	
1.1		474000	6 🔻	2К -	• 1/32 •	64QAM 🔻	7/8 🔻	Apply
1.2		482000	6 💌	2К	• 1/32 •	64QAM 💌	7/8 💌	
1.3		490000	6 💌	2К	• 1/32 💌	64QAM 🔻	7/8 💌	
1.4		498000	6 🔻	2К	1/32 🔻	64QAM 👻	7/8 🔻	

Click the *Apply* button on the right side to make the change take effect.

Name Range	Name	Range	
------------	------	-------	--

Bandwidth 6M, 7M, 8M RF level	
,)-31.5dBmv/60-91.5dB µ
	,
Frequency (KHz) 48000~862000	

CM2-OFDM-R01A>Output

- > TS setting: Please refer to IP output configuration.
- LCN setting: You need to add NIT stream of all frequencies in the base TS (frequency) which is used for your STB auto search and identifies all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency). Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT streamfor this TS (frequency).
 - Click +Descriptor and Cable Descriptor. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency) and then click OK (this operation should be set on Modulator module only).



• Click +*Descriptor* and add the *LCN Descriptor*to check all the programs which are contained in this frequency. Then set programs LCN.

	rtk NIT S	[1.1] NIT	^	Apply		
Original Net	twork ID ID	0			LCN	Select Service
TS ID		0		Clear Config	Service ID LCN	Visible Service Flag
Origin	TS ID	Add	Operation			
0	0	1 tag:0x83 🗰 🗹 2 tag:0x44 🗮 🗹	LCN Descriptor	-		
0	1	1 tag:0x83 🗱 🗹 2 tag:0x44 🗮 🗹	Cable Descriptor			
0	2	1 tag:0x83 X 🗹 2 tag:0x44 X 🗹	* +Descriptor			
0	3	1 tag:0x83 🗰 🗹 2 tag:0x44 🗮 🕅	× +Descriptor -			Close

	Service	e List				
TS	Service ID	Service Name				
1.1	1	2.5M-CCTV1		LCN		Select Service
1.2	1	Program0	Service ID	LCN	Visible Service Flag	0
1.3	1	LipSync_1080i	1	66	Visible	
1.3	2	td HD Phx Chinese Cha		V ⁰	V ISIDIC	<u> </u>

• Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click Apply button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN which you set.

5.3.14 CM2-ISDBT-R01/R01A

CM2-ISDBT-R01/R01A module supports up to 4/8 adjacent frequencies modulating with 1 RF female connector for output.



CM2-ISDBT-R01>Basic Setting

							Statu	is Basic Setting Outp	out Sys
RF Level:	40	(dB	mV⊛ dBuV☉)						
Chan	Enable	Frequency(KHz)	Bandwidth(MHz)	FFT Mode	GI Mode	QAM Mode	Convolutional Codi	Segment Mode	
1.1		474000	6 🗸	2K 💌	1/4 💌	64QAM 👻	7/8 🔹	Full Seg 💌	A
1.2		482000	6 •	2K *	1/4 💌	64QAM 👻	7/8 🔹	Full Seg 💌	
1.3		490000	6 *	2К 💌	1/4 💌	64QAM 👻	7/8 👻	Full Seg 💌	
1.4		498000	6 💌	2K *	1/4 💌	64QAM 👻	7/8 👻	Full Seg 👻	

Click the Apply button on the right side to make the change take effect.

Name	Range	Name	Range
Bandwidth(MHZ)	6M	RF level	25~45dBmV/85~105dB µ V
Frequency (KHz)	48000~862000	FFT Mode	2К
GI Mode	1/4, 1/8, 1/16, 1/32	RF Level Gain(dB)	45~55
QAM Mode	QPSK	Convolutional	1/2, 2/3, 3/4, 5/6, 7/8
	16QAM	Coding	
	64QAM		

CM2-ISDBT-R01/R01A>Output

- > TS setting: Please refer to IP output service configuration.
- LCN setting: You need to add NIT streams of all frequencies to the base TS (frequency) which is for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency). Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click +Descriptor and Cable Descriptor. Fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency) and then click OK (this operation should be set on Modulator module only).

Cable	Descriptor
Frequency(KHz)	Constellation
474000	64QAM 🔻
ОК	Close

• Click +*Descriptor* and *LCN Descriptor*to check all the programs which are contained in this frequency. Then set programs LCN.

Original Net TS ID	work ID ID	0 0 Add		Clear Config	Service ID	LCN Visible Service Flag 3
Origin	TS ID	Descriptor	Operation			
0	0	1 tag:0x83 🗶 🗹 2 tag:0x44 🗶 🗹	LCN Descriptor	_		
0	1	1 tag:0x83 🗰 🗹 2 tag:0x44 🗰 🗹	× +De Cable Descripto	r 🗖	\Rightarrow	
0	2	1 tag:0x83 🗙 🖸 2 tag:0x44 🗶 🗹	× +Descriptor			
0	3	1 tag:0x83 💥 🗭 2 tag:0x44 💥 🕅	× +Descriptor			OK Close

	Servic	e List					
TS	Service ID	Service Name			LCN		Select Service
1.1	1	Program-01		Comise ID	1.011	Visible Osmiss Flag	_
1.1	2	Program-02		Service ID	LGN	VISIBLE SERVICE Flag	•
1.1	3	Progra m-03	> 🖉		66	Visible	- ×
1.1	3	Progra m-03			66	Visible	

r

• Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click Apply button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN you set.

5.4 Function modules

5.4.1 CP2-EAS-00

CP2-EAS-00 module provides the ability to interrupt Encoder playback and switch to an external transport stream. This feature is for the US market and requires the CMP201A chassis to be set for ATSC standard. A common application of Emergency Alert Systems is for Broadcast and Audio Muting.

The trigger switched video content on the Encoders can be sensed using a DC contact closure or the SCTE-18 EAS standard over ASI/IP when the EAS is "Paved" or actively replacing the encoder outputs.



CP2-EAS-00>Basic Setting

EAS Source Setting		•
EAS Signal Input:	Analogue(Relay)	•
EAS Program Input:	ASI	•
Trigger Mode:	Normally Open	•
Command Input Setting		*
PID:	1	
IP Address:	192.1.1.100	
IP Port :	5050	
Encoder Setting		*
Video Type:	Mpeg-2	•
Audio Type:	Mpeg4-AAC	•
Video Bitrate (Kbps):	5000	
Audio Bitrate (Kbps):	320	•
Volume:	10	

P Output Setting		~
Note: Don't take up modify other subboards	the UDP multicast address,avoid the IP conflict.If you want to modify them ,you need to s synchronously.	
Editable:	Enable	•
IP Address:	227.10.50.60	
Command Port:	1235	
		11

Click the *Apply* button on the right side to make the change take effect.

Name	Range	Name	Range
Command Input Setting			
EAS Signal Input	Digital(IP)	EAS Program Input	ASI
	Analogue(Dry Contact)		AV

	Analogue(Relay)					
Trigger Mode	Normally Open					
	Normally Closed					
Encoder Setting						
Video Type	H.264, MPEG-2	Audio Type	AC3,	Mpeg-	1 Laye	er 2
			Mpeg	2-AAC,	Мрес	J4-AAC
Video Bit rate(Kbps)	1500~20000	Audio Bit rate(Kbps)	128,	192,	256,	384
Volume	-10~10					

When you set the IP output of the EAS module, you should set the same parameters for other modules that the service(s) will be paved by EAS input (ASI or AV signal). Then the EAS module will be detected automatically by other modules to complete more configuration. When it is triggered by external IP or analogue (Dry Contact) signals, the configured services(s) on other modules will be switched to the AV or ASI services from EAS module.

CP2-EAS-00>Status

EAS Status	
EAS Status:	Unlocked
AV Input	
Video Resolution:	No Video
Encoder Status	
Total Bitrate: Effective Bitrate: Video Resolution:	0.000 Mbps 0.000 Mbps No Video
A SI Input	
Signal Lock: Total Bitrate: Effective Bitrate: Program Scan Status:	Unlocked 0.000 Mbps 0.000 Mbps Abnormal
IP Output	
Total Bitrate: Video Bitrate: Audio Bitrate: Effective Bitrate:	0.000 Mbps 0.000 Mbps 0.000 Mbps 0.000 Mbps
Version Info	
Firmware Version: Software Version: Hardware Version:	V0.3.0 V1.4.3 V0.0.0

5.4.2 CP2-CAM-00

CP2-CAM-00 is a scrambling & descrambling module with 2 CI slots. It supports almost all kinds of CAM card descrambling and the number of descrambled services is defined by the CAM card. It supports descrambling services which are multiplexed from different IP/RF channels or modules. The scrambling function is designed for specific users. Currently the module only supports Xcrypt CAMCAS scrambling.



1

CP2-CAM-00 >Status

Status shows the total bitrate and effective bitrate of each channel. It also supports TS analysis and service list.

CP2-CAM-00			Status	CI Service Configuration System
Channel	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Service List
1.1	0.000	0.000	۲	i =
1.2	0.045	0.045	۲	
1.2	U.045	0.045	۷	

Click the icon (
) below the TS Analysis to see the TS analyzing result of this channel. Click the

icon (📕) below the *Service List* to see the Services of this channel.

• TS Analysis

Click **Reset Counter** to clear continuity count error and restart counting. Fill the key words of PID, bitrate, bandwidth, table type or service name in the search bar to check the info you wanted.

				Search	
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
0x0(0)	0.058	0.150	0	PAT	
0x10(16)	0.000	0.000	0	Other	
0x11(17)	0.003	0.008	0	SDT	
0x12(18)	0.379	0.978	0	Other	
0x14(20)	0.000	0.000	0	Other	
0x424(1060)	3.793	9.788	0	PCR, Video	Russia Today
0x425(1061)	0.198	0.511	0	Audio	Russia Today

• Service List

Click the service name to check the detail info of this service.

Channel		Tota	I Bitrate(MI	bps)	[6] R	ussia Today	
1.1			0.000		Туре	PID	Bitrate(M
1.2			0.045		PCR PMT	1060(0x424) 5006(0x138e)	0.000
Channel + 1.1				Chan	StreamType:2- Video(MPEG2)	1060(0x424)	0.000
Channer . T.T	_		C	Chan	StreamType:4-Audio	1061(0x425)	0.000
# Service		#	Service		ECM	5006(0x138e)	0.000
1 [6] Russia Today		1	[1] Progra	am-1		Close	
2 [9] Al Jazeera Inte						CIUSE	
3 [12] TV5							
4 [30] DW (Asien)							
5 [37] DW09							
6 [40] RFI Francais							
7 MAI DEL Divoro A	•						

CP2-CAM-00 >CI

CI page not only shows the CAM card name and CA system ID, but also shows the service PID, service information and scrambling/descrambling status.

CAM Max Bitrate is from 48Mbps to 108Mbps, which you can choose in the pull-down list.

CP2-CAM-00			Status C	Service Configuration	System
CAM Max Bitrate: 72Mbps -	CAM1 Auto Reset: Disable - CAM2 Auto Reset: Disable -			MMI Setting	
48MDps 56Mbps 64Mbps	CAM1 (Not inserted)	CAM2 (Not inserted)			Apply
72Mbps 80Mbps 100Mbps					
108Mbps					

	CAM1 (Initialize Success)	Reset
AM Card Name	CAMCAS Cam C-	Kur TV-C-KUR TV
A System ID	19	153
PID	Service Information	Descrambling Status
1060(V/deo)	1.1 [6] Russia Today	Descrambling Failed
090(Video)	1.1 (9) Al Jazeera International	Descrambling Failed
1120(Video)	1.1 [12] TV5	Descrambing Falled
300(V/deo)	1.1 [30] DW (Asien)	Descrambling Failed
371(Audio)	1.1 [37] DW09	Descrambling Failed
1401(Audio)	1.1 (40) RFI Francais	Descrambling Failed
1411(Audio)	1.1 [41] RFI Divers 4	Descrambling Failed
1421(Audio)	1.1 [42] RFI Cambodge	Descrambling Failed
2020(Video)	1.1 (202) DW	Descrambling Failed

Click *Reset* to reboot the CAM card. Click *Apply* on the right side to make the change take effect.

CP2-CAM-00 >Service Configuration

When this module is licensed to scramble, on this page, you can set the output destination of all services.

Service Name	Destination	Destination Settings
Channel 1.1 +		0
6) Russia Today		1
9] Al Jazeera International		1
12] TV5		1
30] DW (Asien)		/
37] DW09		1
40] RFI Francais		/
41] RFI Divers 4		1
42] RFI Cambodge		1
2021 OW		/

When this module is licensed to descramble, on this page, you can select the descrambled services and set the output destination of all services.

hannel Select : Channel 1.1	Channel Scan		
Service Name	Descrambling	Destination	
Channel 1.1		17.Baseboard[1.1]	
)] Russia Today	No Descrambl in		
9] Al Jazeera International	(No Descramble)		
12] TV5	No Descramble		
30] DW (Asien)	No Descramble		
37] DW09	No Descrambl ix		
40] RFI Francais	No Descramblin		
41] RFI Divers 4	No Descramble		
42] RFI Cambodge	No Descramblin		
202] DW	No Descrambl ix		
Channel 1.2	•		
11 Program-1	No Descrambl ir		

Click *Apply* on the right side to make the change take effect. Click *Clear Configuration* to clear all configurations.

CP2-CAM-00 >System

When this module is licensed to scramble, it has the functions of scrambling and descrambling. Change the **CAM Mode** through pull-down list. Click **Apply** to save the change.

CP2-CA	M-00				Status	CI	Service Configuration	System
Change CA	AM Mode : Scrambling	Apply						
License	Descrambling							
	Import License			Browse	Upload			
	Export License	Export						
Logs								
	Open							
Others								
	Reboot	Reset to Defaults						

When this module is licensed to descramble, it only can be served as descrambling.

CP2-CA	M-00			Status	CI	Service Configuration	System
License							
	Import License		Browse	Upload			
	Export License	Export					
Logs							
	Open						
Others							
	Reboot	Reset to Defaults					

On System Operation page you can Import/Export License, Reboot module, Factory Reset and Manage logs.

• Log Manage

Turn on Enable Real-time Log switch to see the real time log message and level below.

Level	Message	
0	[SYS][Resource_Refresh:995] ===================================	
6	[SYS][Resource_Refresh:996] Refresh slot13 resource!^M	
6	[SYS][Resource_Refresh:997] ===============================M	
6	[SYS][Resource_Refresh:995] ===================================	
0	[SYS][Resource_Refresh:996] Refresh slot14 resource!^M	
6	[SYS][Resource_Refresh:997] ===================================	
6	[SYS][Resource_Refresh:995] ===================================	
0	[SYS][Resource_Refresh:996] Refresh slot15 resource!^M	
6	[SYS][Resource_Refresh:997] ===================================	

Click to clear all log messages on the screen.
Click to delete all log information.
Click to export log information.
Click To filter desired log message.

		Log	Filter		
💊 🔸 Ena	ble Real-time Log: ON	Le	evel		Filter:
		Level	Operation		
Level		Error			
0	[SYS][Resource_Refresh:995] ======	Warning			
0	[SYS][Resource_Refresh:996] Refresh	Information			
0	[SYS][Resource_Refresh:997] ======	Debug			
0	[SYS][Resource_Refresh:995] ======				
0	[SYS][Resource_Refresh:996] Refresh	Modu	ile List		
6	[SYS][Resource_Refresh:997] ======	Module Name	Operation		
6	[SYS][Resource_Refresh:995] ======	SYS	2		
6	[SYS][Resource_Refresh:996] Refresh	INIT	2		
0	[SYS][Resource_Refresh:997] ======	FPGA	2		
		GPIO			
		CI	2	.	
		OK	Cancel		
		OK	odificor		

5.4.3 CP2-EIT-00

CP2-EIT-00 is an EIT multiplex module. It supports up to 32 TS inputs and up to 16 TS outputs. It also supports EIT multiplexing enable control at module level, TS level and program level. Multiple EIT multiplexing modules can run simultaneously in a single chassis.



The GUI of EIT module includes three pages: Status, Module Setting and System.

CP2-EIT-00 >Status

The Status Page displays modules and services with EIT enabled. The indicator in front of each service shows its working status.

Green: EIT is enabled and normal.

Red: EIT is enabled but abnormal. No EIT content from the source or no EIT output.

Gray:	EIT	is	disabled.
-------	-----	----	-----------

11-00			Statu	Module Setting System
EIT Enabled Module	Channel	Service Name	Service ID	Source
4.CM-QAMA-01	CH1	CNN	32→302	Slot 6: CR-DVBS2CI-00
5.CM-QAMB-01	CH2	Bloomberg BBC World	56→303 1→55	Slot 6: CR-DVBS2CI-00 Slot 6: CR-DVBS2CI-00
	CH3	 Animal Planet 	123	Slot 6: CR-DVBS2CI-00
	CH4	 EuroSports CNN American idol 	12→19 672→77 65→68	Slot 6: CR-DVBS2CI-00 Slot 6: CR-DVBS2CI-00 Slot 6: CR-DVBS2CI-00

CP2-EIT-00 >Settings

		Status Module Setting S
EIT Enabled Module	EIT Enable/Disable Control	Tips
Baseboard		1. EIT function is enabled by default on
3.CM2-ISDBT-R01A		modulator module and disabled on all IP
6.CM2-QAMA-R01A		output channels of baseboard.
		2. EIT Enable/Disable Control is only used
		when certain service has wrong EIT
		information or the total output TS with EIT
		enabled exceed the maximum limit of 16 for
		each EIT module or an IP output channel
		requires an EIT output.
		3. Click checkbox to enable or disable EIT
		function of relative TS stream or service.

Here you can select all modules or click checkbox of the module option which you need to make EIT enabled configuration. EIT function is enabled by default on modulator module and disabled on all IP output channels of baseboard. You can check the detailed information in the Tips tab.

- Supports parsing of EIT table with DVB-S/S2/S2X/C/T/T2, ISDB-T, IP input.
- Supports QAM-A/OFDM/IP output EIT table.

Click **Apply** button on the right side to make the changes made take effect.

When there is a CP2-EIT-00 module, you should still start the configuration from receiving modules and output the required services to modulation module or IP output of baseboard, since the EIT module will utilize the created service list to generate a new EIT table accordingly. Here is an example of CR2-DVBS2CI-00 DVB-S/S2 receiver module and CM2-QAMA-R01A modulation module as an example.

Select the corresponding modulation module and a channel for each service. The service will be multiplexed automatically on the modulation module.

 2.CM-QAMA-R01A Channel1 Multiplex Channel2 Multiplex 3.CM-ISDBT-R01 Channel2 Multiplex 17.Baseboard Channel3 Multiplex Channel4 Multiplex Channel5 Multiplex Channel5 Multiplex Channel6 Multiplex Channel6 Multiplex Channel7 Multiplex Channel8 Multiplex Multiplex Kannel8 Multiplex Multiplex Kannel8 Multiplex Kannel8 Kannel8 Multiplex Kannel8 Kannel8 Kannel8 Kannel8 Kannel4 Kannel8 Kannel8 Kannel8 Kannel8 Kannel8		[13]NU	6
3.CM-ISDBT-R01 > 17.Baseboard > Channel3 Multiplex Channel4 Multiplex Channel5 Multiplex Channel6 Multiplex Channel7 Multiplex Channel8 Multiplex Multiplex Channel6 Multiplex Channel6 Multiplex Channel7 Multiplex Channel8 PID Type 448 PCR 448 StreamType:27-Video(H264) 449 StreamType:4-Audio 450 StreamType:4-Multip	IA-R01A <<	Channel1	 Multiplex
17.Baseboard Channel3 Multiplex Channel4 Multiplex Channel5 Multiplex Channel6 Multiplex Channel7 Multiplex Channel8 Multiplex Channel8 Multiplex HID Type Enable 448 PCR 448 StreamType:27-Video(H264) 449 StreamType:4-Audio 440 StreamType:4-Audio	BT-R01 >>	>> Channel2	Multiplex
Channel4 Multiplex Channel5 Multiplex Channel6 Multiplex Channel7 Multiplex Channel8 Multiplex Channel8 Multiplex PID Type 448 PCR 448 StreamType:27-Video(H264) 449 StreamType:4-Audio 440 Channel7	oard >>	>> Channel3	Multiplex
Channel5 Multiplex Channel6 Multiplex Channel7 Multiplex Channel8 Multiplex Channel8 Multiplex PID Type 443 PCR 443 StreamType:27-Video(H264) 449 StreamType:4-Audio 440 StreamType:4-Multip	·	Channel4	Multiplex
Channel6 Multiplex Channel7 Multiplex Channel8 Multiplex Channel8 Multiplex PID Type 448 PCR 448 StreamType:27-Video(H264) 449 StreamType:4-Audio 440 StreamType:4-Audio		Channel5	Multiplex
Channel7 Multiplex Channel8 Multiplex PID Type Enable 448 PCR Image: Compare the second s		Channel6	Multiplex
Channel8 Multiplex PID Type Enable 448 PCR Image: Compare the second secon		Channel7	Multiplex
PID Type Enable 448 PCR Image: Comparison of the stream Type: 27-Video(H264) 449 Stream Type: 4-Audio Image: Comparison of the stream Type: 4-Audio 450 Charam Tupe: 4-Audio Image: Comparison of the stream Type: 4-Audio		Channel8	Multiplex
PID Type Enable 448 PCR Image: Compare the second			
448 PCR 448 StreamType:27-Video(H264) 449 StreamType:4-Audio 450 StreamType:4-Audio	PID	Туре	Enable
448 StreamType:27-Video(H264) Image: Comparison of the stream Type:4-Audio 449 Stream Type:4-Audio Image: Comparison of Audio 450 Stream Type: 4-Audio Image: Comparison of Audio	448	PCR	
449 StreamType:4-Audio	448	StreamType:27-Video(H264)	
AED StroomTupo: (Audio	449	StreamType:4-Audio	
450 Stream Type.4-Audio	450	StreamType:4-Audio	

After finish the service configuration, you can go to the EIT module to enable or disable the EIT multiplexing for specific services and check the EIT multiplexing status. EIT function is enabled on modulation module and disabled on IP output of baseboard by default.

EIT-00		Status Module Setting Sy
EIT Enabled Module	EIT Enable/Disable Control	Tips
Baseboard 4.CM-QAMA-01	[CH1] [CH1] [CNN[123][NetworkID_121][TSID_235] [Fox[123][NetworkID_121][TSID_235]	1. EIT function is enabled by default on modulator module and disabled on all IP Ap
5.018-02-010-01	 ♥ [CH2] ⊕ [CH3] 	2. EIT Enable/Disable Control is only used when certain service has wrong EIT
	CH4 EuroSports[123][NetworkID_121][TSID_235] CNN[123][NetworkID_121][TSID_235] American Idol[51][NetworkID_21][TSID_23]	Information or the total output TS with EIT enabled exceed the maximum limit of 16 for each EIT module or an IP output channel
	🖲 🔽 📴 [CH5]	requires an EIT output.
		3. Click checkbox to enable or disable EIT function of relative TS stream or service.
	- 🗹 🗋 [CH7]	
	⊕ 🗹 🦲 [CH8]	

All service lists will be obtained automatically from related modulation modules or IP output channels

CP2-EIT-00 >System

On **System** page you can import/export *license*, reboot module, *restore factory default setting* **s** and *manage logs* for trouble-shooting.

CP-EI	T-00							
CP2-EI	Т-00					Status	Module Setting	System
License								
	Product ID							
	Import License				Browse	Upload		
	Export License		Export					
SNMP MIE	В							
	Export MIB		Export					
Logs								
	Open							
Others								
	Reboot	Reset to Defaults						

Log Manage>This page shows the logs of the module. If there are issues encountered on this module, exporting the logs will help R&D team to analyze and fix them.

Turn on *Enable Real-time Log* switch to see the real time log messages and the severity level of each message below.

EIT-00	al-time Log: or [TSP]952 EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952 EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952 EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]	Message		Status	Module Settin	ng Syst
Level Clevel	al-time Log: [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber: 3226 Get Input TS Num [1] from slot [16]	Message				Filter: 🝸
Level O O O O O O O O O O O O O	[TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]	Message				
	[TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]					
0 0 0 0 0 0	[TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]					
0 0 0 0	[TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]					
0 0 0 0	[TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952.EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]					
0 0 0	[TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]					
0 0 0	[TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]					
0 0	[TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16] [TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]					
0	[TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]					

Click is to clear all log messages on the screen.
Click is to delete all log information.
Click is to export log information.
Click is to filter desired log messages.

Clicking the filter icon, you can simply select what logs to be included.

	Level
Level	Operation
Error	
Warning	۲
Information	×
Debug	
	Module List
Module Name	Operation
SYS	
INIT	
FPGA	
GPIO	
CI	
TEMP	

5.4.4 CP2-ASI-00

CP2-ASI-00 module is an ASI module that has 5 bidirectional ASI ports. Each port can be defined as either ASI input port or ASI output port. It supports different TS stream formats of 188/204 bytes packet length and Byte/Packet stream mode with up to 150Mbps TS stream bitrate.



Click CP2-ASI-00 in the Module List to reach CP2-ASI-00 module page.

CP2-ASI-00 >Status

CP2-ASI-	-00					SI	atus Basic Setting	ASI Input	ASI Output	PSIP	System
Channel	Input/Output	Locked Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List				
1.1	Output		3.548	36.000	Normal	۲					
1.2	Output		0.000	36.000	Normal	۲					
1.3	Output		0.000	36.000	Normal	۲					
1.4	Input	Unlocked	0.000	0.000		۲	1				
1.5	Input	Unlocked	0.000	0.000		۲					

Click **TS Analysis** of each channel, you can see TS bitrate Analysis. Click **Reset Counter** to reset the Continuity Count Error counter. In the Search bar, you can input key words or numbers, such as PIDs, Type or Service, for a quick search.

I.1 TS Analysis					Reset Count
				Search	
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
0x0(0)	0.015	0.100	0	PAT	
Dx1(1)	0.015	0.100	0	Other	
0x10(16)	0.000	0.000	0	Other	
Ox11(17)	0.001	0.007	0	SDT	
0x12(18)	0.001	0.007	0	Other	
0x14(20)	0.000	0.000	0	Other	
0x101(257)	0.015	0.100	0	PMT	LVJ Main
0x102(258)	0.330	2.200	0	Audio	LVJ Main
0x200(512)	13.832	92.213	0	PCR, Video	LVJ Main

Click the icon <a>i to check service information of all the inputs.

	Channel : 1.1	Channel : 1.2
#	Service	# Service
1	[1] LVJ Main	No Data

You can check program details by clicking the program item.

Туре	PID	Bitrate(Mbps
PCR	512(0x200)	13.841
PMT	257(0x101)	0.015
StreamType:36-Video(H265)	512(0x200)	13.841
StreamType:15- Audio(MPEG2_AAC)	258(0x102)	0.329
	CHUSC	

CP2-ASI-00 >Basic Setting

CP2-ASI-00		Statu	Basic Setting ASI Input ASI Output	PSIP System
Channel	Input/Output	Packet Length	Total Bitrate(Mbps)	
1.1	Output -	188 🗸	36	
1.2	Output -	188	36	Apply
1.3	Output -	188	36	
1.4	Input -			
1.5	Input 🗸			

Name	Range
Total Bitrate (Mbps)	0.25 - 180
Packet Length	188/204

Click the *Apply* button on the right side to make the change take effect.

CP2-ASI-00 >ASI Input

CP2-ASI-00	Sta	itus	Basic Setting	ASI	Input	ASI Output	PSIP	System
Channel Select: Channel 1.4 Scanning Time(mathematical select)	ns): 1000 • Program Scan					1		
Service Name	Destination				Destin	ation Setting		\frown
	No Data							Apply
							(Clear
							Q	Config

You can route a whole stream or a service(s) from the input channel toward the available output channels (IP or RF). Two types of routing are available.

To use **Bypass mode**

In this mode, you can route a whole input transport stream towards an IP or RF output which will be occupied only by this stream. Any attempt of routing other stream/service towards this channel will be

an error. This mode can only be set by clicking the icon on the TS.

To use Multiplex mode

This mode allows the administrator to perform the following operations:

- 1. Route a single service towards an output channel to create SPTS.
- 2. Route services towards a single output channel to create MPTS.

3. Route service(s) AND stream/s from multiple channels towards a single output channel to create MPTS.

CP2-ASI-00 >ASI Output

CP2-ASI-00					Status	Basic Setting	ASI Input	ASI Output	PSIP	System
Olick "Apply" after modifying your parameters to s	ave the configuration.							×		
[1.1] TS	¢ ^				[1.1] TS					Apply
1. Program4	(17.1.1)	Original Network ID			0					Clear Config
		TSID	0		0					
		NO. 1	35	Program4	ervice Name	Program4	ervice Provid	ier		
					OK Cancel					

- > TS setting: Please refer to IP Output service configuration on baseboard IP output.
- LCN setting: You need to add NIT streams of all frequencies to the base TS (frequency), which is for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency). Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click +*Descriptor* then *LCN Descriptor* to check all the programs which are contained in this frequency. Then set programs LCN.
| T Network INT States 1 tprat Network ID 1 | лт | | | | | | [1.4] | | | | Logical Chan | nel Number | | |
|---|-------------------------|----------------------|--|--|----------------|-------------|---------------|------------------|----------------------|-----------------------------|--|--------------------|-------------|--|
| T Network UT Steam
ignal Network ID
1
2
1
1
2
1
4
1
1
2
1
4
1
1
2
1
4
1
1
2
1
4
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4
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4
1
1
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1
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1
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1
1
1 | | | | | | | | | TS | Service ID | LCN [0,16383] | Visible Servi | ice Flag | |
| I retront to | T. Mahurada 🗖 | IIT Channel | | | | | | 8 | 1.4 | 1 | 1 | Visible | • | |
| Regional Number
TS Service ID LCN [0,16383] Visible Service Flag 2
1 2 Visible Visible Service Flag 2
1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | ining Network | | | | | | | | 1.5 | 1 | 2 | Visible | - | |
| Logical Channel Number 1 1 1 1 1 2 1 3 2 2 1 4 2 2 1 4 2 2 1 4 2 2 1 4 2 2 1 4 2 2 1 4 2 2 1 1 1 1 1 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 < | s in | (ID) | 4 | | | | | | | | | | | |
| Image: Instruction I 1 Image: Im | 510 | | | Add | | | | | | | | | | |
| Inginal Ne TS ID Descriptor Operation 1 1 X + Concentration X + Concentration 1 3 X + Concentration X + Concentration 1 4 X + Concentration X + Concentration 1 4 X + Concentration X + Concentration 1 4 X + Concentration X + Concentration 1 1 X + Concentration X + Concentration 1 X + Concentration X + Concentration X + Concentration 1 X + Concentration X + Concentration X + Concentration 1 X + Concentration X + Concentration X + Concentration 1 X + Concentration X + Concentration X + Concentration 1 X + Concentration X + Concentration X + Concentration 1 X + Concentra | | | | | | | | | | | | | | |
| 1 1 X Construction 1 2 X Construction 1 3 X Construction 1 4 X Construction 1 5 Construction Construction 1 1 Construction Construction Construction 1 1 Construction Construction Construction Construction 1 1 Constretion Constru | riginal Ne | TS ID | | escriptor | | Operatio | 'n | | | | | | | |
| 1 2 X + 0 1 3 X + 0 1 4 X + 0 1 4 X + 0 I 4 X + 0 I 4 X + 0 I 4 X + 0 I 4 X + 0 I 4 X + 0 I 5 Image: Close Image: Close Image: Close Image: Close Image: Close Imag | 1 | 1 | | | × +De | sorintor | hannel Number | | | | | | | |
| 1 3 4 | 1 | 2 | | | × +De | Logical Ci | | | | | | | | |
| Logical Channel Number TS Service ID LCN [0,16383] Visible Visible 15 1 15 2 Visible 2 I 1 Visible 2 Visible 2 Visible 2 | 1 | 3 | | | × +De | | | | | | | | | |
| Cose Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag 2 1.5 1 2 Visible 2 2 Visible 2 2 2 2 2 1.5 1 2 Visible 2 2 | | | | | | | | | | | | | | |
| Is Service ID LCN [0,16383] Visible Service Flag D 1.4 1 1 Visible D D 1.5 1 2 Visible C D 1.4 1 1 Visible Service Flag C D 1.4 1 1 Visible Visible C D D Visible Visible C | | | | | | | _ | 1 | | | ОК | Close | | |
| 1.4 1 1 Visible Image: Constraint of the service o | | | Logical Ch | nnel Number | | | _ | 1 | | | ОК | Close | | |
| I.S. I.Z. Visible I.Z. Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag I.Z. 1.4 1 1 Visible I.Z. Visible I.Z. 1.5 1 2 Visible I.Z. I.Z. I.Z. | TS | Service ID | Logical Cha | nnel Number
Visible Serv | rice Flag | | _ | 1 | | | ОК | Close | | |
| Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag Z 1.4 1 1 Visible Z 1.5 1 2 Visible Z | TS
1.4 | Service ID
1 | Logical Ch:
LCN [0,16383] | nnel Number
Visible Serv | rice Flag | | | 1 | | | OK | Close | | |
| TSService IDLCN [0,16383]Visible Service FlagC1.411VisibleC1.512VisibleC | TS
1.4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Visible Serv | rice Flag | | - | | | | OK | Close | | |
| 1.4 1 1 Vaible ☑ 1.5 1 2 Vaible ☑ | TS
1.4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible
Visible | rice Flag
• | | | | | Logica | OK | er | | |
| 1.5 1 2 Visible Visible Z | TS
1.4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible
Visible | rice Flag
T | 2 | - | TS | Service ID | Logica | I Channel Number
16383] Visible | er
Service Flag | ٥ | |
| | TS
1.4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible
Visible | rice Flag | 2
2
2 | - | TS
1.4 | Service ID | Logica
LCN [0,7 | I Channel Number
16383] Visible | er
Service Flag | 0 | |
| 1.5 1 2 Visible 👻 💋 | TS
1,4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible
Visible | rice Flag
v | | - | | | Logica | OK | er | | |
| | TS
1.4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible
Visible | rice Flag
V | 2 | | TS
1.4 | Service ID | Logica
LCN [0,1 | I Channel Numb
(16383) Visible
Visible | er
Service Flag | 0 | |
| | TS
1.4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible
Visible | ice Flag
V | 2 | | TS
1.4
1.5 | Service ID
1
1 | Logica
LCN [0,1
2 | I Channel Numb
16383] Visible
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Service Flag | | |
| | TS
1.4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible | rice Flag
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2 | | TS
1.4
1.5 | Service ID
1
1 | Logica
LCN [0, 1
2 | I Channel Number
16383] Visible
Visible
Visible | er
Service Flag | | |
| | TS
1.4
1.5 | Service ID
1
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible | rice Flag
V | 2 | | TS
1.4
1.5 | Service ID
1
1 | Logica
LCN [0,
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2 | I Channel Number
16363] Visible
Visible
Visible | er
Service Flag | 0
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0 | |
| | TS
1.4
1.5 | Service ID
1 | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible
Visible | vice Flag
v | | | TS
14
1.5 | Service ID
1 | Logica
LCN [0,
1
2 | I Channel Numbri
16383] Visible
Visible
Visible | er
Service Flag | 2 | |
| | TS
1.4
1.5 | Service ID | Logical Ch.
LCN [0,16383]
1
2 | Innel Number
Visible Serv
Visible
Visible | vice Flag
v | | | TS
1.4
1.5 | Service ID
1
1 | Logica
LCN [0,
1
2 | I Channel Number
16363] Visible
Visible
Visible | er
Service Flag | 2 | |

 Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click *Apply* to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN you set.

CP2-ASI-00>PSIP

Here in PSIP tab, the user can insert different tables like PAT, PMT, SDT,NIT, and CAT.

	Output Channel [1.1] >> PSIP					
Select All	PAT Insert					
	PMT Insert					
	SDT Insert					
	NIT Insert					
	OK					
		PMT Insert SDT insert NIT Insert CAT Insert OK	CK	Image: Control of the sector of the secto	Image: Construction of the second	CK

CP2-ASI-00>System

CP2-A	SI-00		Status	Basic Setting	ASI Input	ASI Output	PSIP	System
Program	Auto Scan							
	Enable	C Set						
License								
	Product ID	DK21145490056						
	Import License			Browse	oad			
	Export License	Export						
SNMP MIE	3							
	Export MIB	Export						
Logs								
	Open							
Others								
	Reboot	Reset to Defaults						

On **System** page you can choose to: Import/Export license, Export SNMP/MIB, Manage logs ,Reboot the unit, Restore the unit to factory defaults

5.4.5 CP2-IP-00

CP-IP-00 is an IP modele that supports multiple network protocols such as UDP/RTP/HLS/RTSP/SRT/Zixi/RIST. The module has 1 internal GbE port, 3 external GbE ports, 1 USB port and 1 Mini-HDMI port. The GbE ports will be used for IP stream input and output while USB ports and Mini-HDMI port will be used for OS installation. With CP2-IP-00 module, you are able to output any program streams via different network protocols or receive any network streams and convert to RF signal for further transmission.



CP2-IP-00 >Status



The CPU status (CPU: 1%) is shown as a percentage. It reflects the amount of processing capacity that is currently being used.

The System Status (System Status) which reports the current status of the system. Green indicates the system operation is good while Red indicates there is some detail about the system that is currently in Alarm condition. A Red condition prompts the user to seek further information about the Alarm condition by viewing the Logs tab.

CP2-IP-00 >Basic Settings

The Basic Settings Tab is used to configure the video processing details. This will include signal direction (transmit, receive or both), addresses to be received or delivered to and labeling of the gateways to help the user distinguish gateways from one another.

The number of available gateways will depend upon the license key that is applied.

2-IP-00					CPU: 2%	🛑 Syste
			B	asic Setting	Logs	System
onfigure IP Input & Output						
dd Channel						
Channel 1						0
Configure Channel Add Input	Add Output Switch to	Primary Input				Remove
Input Selection A	ctive: None Primary: MPEG	IP Receive 1 Backup: None				
🗉 🥒 Input 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mt	ops 🔴
🗉 🥒 Output 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000		×	0.000 Mt	ops 🔴
	Interface: eth0	239.192.0.201:10000		×	0.000 Mt	ops 🔴
Image: Output 2 (MPEG/IP)						
Output 2 (MPEG/IP)						0
Channel 3 Channel 4						0

Adding a Channel

P2-TP-00	Add Channel		CPU: 3% 🔴 Svs
	Input 1 Output 1		
	Receive Type:	MPEG/IP ~	Basic Setting Logs System
Configure IP Input & Output	Receive:	Enabled v	
Add Channel	Interface:	eth0 ~	
	VLAN:	None *	
Channel 1	Mode:	Multicast v	0
Configure Channel Add Input Add Output	Destination IP:	239.192.0.200	Remove
Input Selection Active: None Prima	Destination Port:	10000 ‡	
Input 1 (MPEG/IP) Interface:	FEC:	Disabled ~	EC: Not Present 🗙 0.000 Mbps 🔴
Output 1 (MPEG/IP) Interface:	IGMP Filter Mode:	Exclude ~	🗙 0.000 Mbps 🔴
Output 2 (MPEG/IP) Interface:	Add IGMP Address	Remove All	🗙 0.000 Mbps 🔵
Channel 3	IGMP Address	Remove	0
Configure Channel Add Input Add Output			Remove
Input Selection Active: SRT Receive 1			
Input 1 (SRT) Interface:			Call Mode: Caller 🗙 0.000 Mbps 🔴
Output 1 (SRT) Interface:			Call Mode: Caller 🗙 0.000 Mbps 🧶
Channel 4			0

Click on the Add Channel button in the upper left area of the page to create a new or additional

gateway. This will open a configuration window and allow the user to define the 'Alias' or label for the gateway; the receive and/or transmit addresses

The configuration window that opens will provide the user with two tabs: Input and Output.

The Input tab(s) is where the user will define the details for the stream to be received and any IGMP filtering. The Output tab(s) will define the details for the stream(s) to be sent out of this gateway.

Input Settings

This menu is used to configure IP receive settings for MPEG/IP, SRT, Zixi, HLS, Seamless RTP (SMPTE 2022-7 for Hitless Switching) and RIST inputs. Based upon the type of protocol the user selects, the available configuration settings will adapt to provide the best fit.

Three settings that are common to all protocols are "Receive", which can be set to Enabled or Disabled, "Interface", which can be set to eth0, eth1, eth2 or Internal (options may change depending on the number of interfaces and user defined interface name) and "VLAN", which will filter incoming streams for VLAN tags.

Input 1 Output 1 Receive Type: Receive: Interface: VLAN: Mode: Destination IP: Destination Port:	MPEG/IP Enabled eth0 None Multicast 239.192.0.200 10000 Disabled	× × × ×
Receive Type: Receive: Interface: VLAN: Mode: Destination IP: Destination Port:	MPEG/IP Enabled eth0 None Multicast 239.192.0.200 10000 Disabled	· · · · · · · · · · · · · · · · · · ·
Receive: Interface: VLAN: Mode: Destination IP: Destination Port:	Enabled eth0 None Multicast 239.192.0.200 10000 Disabled	× × ×
Interface: VLAN: Mode: Destination IP: Destination Port:	eth0 None Multicast 239.192.0.200 10000 Disabled	× × ×
VLAN: Mode: Destination IP: Destination Port:	None Multicast 239.192.0.200 10000 Disabled	~ ~
Mode: Destination IP: Destination Port:	Multicast 239.192.0.200 10000 Disabled	•
Destination IP: Destination Port:	239.192.0.200 10000 Disabled	
Destination Port:	10000 Disabled	
	Disabled	
FEC:		*
IGMP Filter Mode:	Exclude	Ŧ
Add IGMP Address	Remo	ve All
IGMP Address	F	Remove
	Apply	Cancel

Universal Input Settings

Note: when the "Receive" option is enabled for a given protocol (MPEG/IP, SRT, Zixi, HLS, Seamless RTP or RIST), the gateway will be capable of receiving incoming bitrate for that protocol. When using multiple receive instances on the same gateway, the "Receive" setting will not engage the newly

configured receive instance as the active input by itself. To configure the additional receive as the active input, please review "Configuring Active Inputs and Failover"

MPEG/IP Receive Settings

The figure below shows the options available when the "Receive Type" is set to "MPEG/IP".

Add Channel		
Input 1 Output 1		
Receive Type:	MPEG/IP	-
Receive:	Enabled	*
Interface:	eth0	-
VLAN:	None	
Mode:	Multicast	*
Destination IP:	239.192.0.200	
Destination Port:	10000	-
FEC:	Disabled	-
IGMP Filter Mode:	Exclude	-
Add IGMP Address	R	emove All
IGMP Address		Remove
	Apply	Cancel

MPEG/IP Receive Settings

Settings	Range	Description

Mode	Multicast Unicast	Multicast setting allows the unit to receive multicast streams. Multicast streams originate from the IP range 224.0.0.0 – 239.255.255.255. Unicast allows the unit to receive unicast streams. Unicast streams originate directly from a source device.
Destination IP	224.0.0.0 – 239.255.255.255	This setting is only available when receiving a multicast stream. This is the address the unit will attempt to join.
Destination Port	0 - 65535	This is the UDP port the source device is sending to. This is the only setting required to receive a unicast stream but is also required for multicast.
FEC	Enabled Disabled	Sets the port to accept FEC on the incoming MPEG/IP stream
IGMP Filter Mode	Exclude	Used on networks supporting IGMPv3. If this setting is set to Exclude, any streams originating from the user defined IP addresses will be included in the IGMP messages and the network will not forward these streams to the device. If this setting is set to Include, any streams originating from the user defined IP addresses will be included in the IGMP messages and the network will only forward these streams to the device.

Click the 🔳 icon by the MPEG/IP input to view information about the incoming stream. Clicking the

 \blacksquare icon will hide the IP statistics.

🖃 🖉 Input 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Preser	nt 🗙 0.000 Mbps 🔴
Status Unlor Sync Status: Unlor Packets Per Frame: Encapsulation: FEC Rows: FEC Columns:	Statistics ocked 0 Out Of Order Packets: Duplicate Packets: 0 <th>Configuration VLAN: Mode: FEC: IGMP Mode: 0 0 0 2012-01-05 06:19:56 Counters</th> <th>None Multicast Disabled Exclude</th> <th>Filter List licited IGMP Report</th>	Configuration VLAN: Mode: FEC: IGMP Mode: 0 0 0 2012-01-05 06:19:56 Counters	None Multicast Disabled Exclude	Filter List licited IGMP Report

MPEG/IP Receive Statistics

The Reset Counters button is used to reset all the statistics for incoming IP

packets and establish a new point of reference.

SRT Receive Settings

The figure below shows the options available when the "Receive Type" is set to "SRT".

Input 1 Output 1	
Receive Type:	SRT -
Receive:	Enabled -
Interface:	eth0 ~
VLAN:	None 👻
Call Mode:	Caller
Remote Host:	1.0.0.1
Remote Port:	10000 ‡
Local Port Mode:	Auto 👻
Local Port:	10000 \$
Discovery Timeout (seconds):	3 ‡
Latency (ms):	20 \$
Passphrase:	•••••
	Apply Cancel

SRT Receive Settings

Settings	Range	Description
Call Mode	Caller Listener	Defines the 'handshake' mechanism to be used when establishing connection.
	Rendezvous	

Remote Host	XXX.XXX.XXX.XXX	Defines the IP address of the stream on the remote device	
Remote Port	0-65535	Defines the port of the stream on the remote devices	
Local Port Mode	Auto	In Auto mode, the local port number will be assigned automatically	
	Manual	In Manual mode, the local port number will be defined by the user	
Local Port	1-65535	Defines the local port number	
Discovery Timeout	1 – 100, use 0 for	Defines the length of time to wait for the	
(seconds)	infinite	stream to be discovered	
Latency (ms)	1-8000	Defines buffer size in milliseconds	
Passphrase	10 – 79 characters	Defines the encryption passphrase	

Click the \blacksquare icon by the SRT input to view information about the incoming stream. Clicking the icon will hide the SRT receive statistics.

Channel 2							9	2
Configure Channel Add	Input Add Out	tput Switch to E	Backup Input				Remove	
Input Selection	Active: SRT	Receive 1 Primary	SRT Receive 1 Backup	: None				
🖃 🥔 Input 1 (SRT)	I	Interface: eth0	255.255.255.255.6	535	Call Mode: 🤇	Caller 🗙	0.000 Mbps 🧲	
Status		Statistics		Configuration				
Connection State:	Invalid	Reconnections:	0	Discovery Timeout (seconds):	3			
Up Time:	00:00:00:00	Received Packets:	0	VLAN:	None			
Local Port:	0	Received Bytes:	0 Bytes					
Encryption Mode:	Disabled	Lost Packets:	0					
Decryption State:	Unsecured	Lost Bytes:	0 Bytes					
Round Trip Time (ms):	0	Skipped Packets:	0					
Buffer Size (ms):	0	Skipped Bytes:	0 Bytes					
Latency (ms):	0							
Link Bandwidth:	0.000 Mbps	Last Reset:	2021-04-26 01:23:54					
TS Packets Per SRT Packet:	0	🚽 🤣 Res	et Counters					

SRT Receive Statistics

The Reset Counters button is used to reset all the statistics for incoming SRT packets and establish a new point of reference.

Zixi Receive Settings

The figure below shows the options available when the "Receive Type" is set to "Zixi".

Input 1 Output 1		
Receive Type:	Zixi	Ŧ
Receive:	Enabled	~
Interface:	eth0	~
VLAN:	None	~
Remote Host:		
Alternate Remote Host:		
Remote Port:	2077	*
Stream ID:		
Remote ID:		
Password:		
Ignore TLS Certificate Error:	Do Not Ignore	w
Maximum Latency (ms):	4000	-
Decryption Mode:	Disabled	
Decryption Key:		
FEC Overhead (%):	30	*
	Apply	Cancel

Zixi Receive Settings

Settings	Range	Description		
Remote Host	xxx.xxx.xxx	Defines the host of the remote broadcast		
	Domain Name	using IP address or domain name		
Alternate Remote Host	XXX.XXX.XXX.XXX	Defines the alternate host of the remote		
	Domain Name	broadcast using IP address or domain name		
Remote Port	0 – 65535	Defines the port of the stream on the		
		remote device		
Stream ID	User entry	Defines the Zixi stream ID to be received		
Remote ID	User entry	Specify the Zixi Broadcaster or Feeder ID		
		that will push the stream		
Password	User entry	Provides the password to allow specific		
		Stream ID entered to be received		
Ignore TSL certificate Error	Do Not Ignore	Defines whether to cease or continue		
	Ignore	signaled		
Maximum Latency (ms)	30 – 10,000	Defines the maximum latency or buffer size (in milliseconds)		
Decryption Mode	Disabled	Defines if a decryption of the received		
	AES-128	signal is needed, which decryption standard to use, or if the CP2-IP-00 will		
	AES-192	automatically detect these		
	AES-256			
	Automatic			
Decryption Key	User entry	Provides the key to allow signal processing		
		IT decryption is to be done		
FEC Overhead (%)	0 – 50	Defines the amount of static overhead to		
		be used to accommodate FEC		

Click the \blacksquare icon by the Zixi input to view information about the incoming stream. Clicking the \Box icon will hide the Zixi receive statistics.

Channel 2								0
Configure Channel Add I	Add Out	put Switch to Backup Inp	put				Remo	ove
Input Selection	Active: Zixi R	eceive 1 Primary: Zixi Rece	eive 1 Backup:	None				
😑 🥔 Input 1 (Zixi)	I	nterface: eth0 Inv	ralid			×	0.000 Mbps	٠
Status Connection State: Up Time: Decryption State: Round Trip Time (ms): Jitter (ms): TS Packets Per Zixi Packet:	Invalid Unsecured 0	Statistics Reconnections: Received Packets: Received Bytes: Dropped Packets: Not Recovered Packets: FEC Packets: FEC Packets: ARQ Packets: ARQ Packets: ARQ Packets: ARQ Puplicate Packets: ARQ Requests:	Bytes	Configuration Password: Ignore TLS Certificate Error: Maximum Latency (ms): Decryption Mode: FEC Overhead (%): VLAN:	Do Not Ignore 4,000 Disabled 30 None			

Zixi Receive Statistics

The Reset Counters button is used to reset all the statistics for incoming Zixi

packets and establish a new point of reference.

HLS Receive Settings

The figure below shows the options available when the "Receive Type" is set to "HLS"

Configure		
Input 1 Output 1		
Receive Type:	HLS	Ŧ
Receive:	Enabled	Ŧ
Interface:	eth2	Ŧ
VLAN:	None	Ŧ
HLS Mode:	Pull	-
HLS Network Location:	http://player	rtest.longtailvideo
	Apply a	nd Refresh
Profile Name		Bandwidth
Decryption Mode:	Disabled	•
Decryption Key:	****	
Discovery Timeout (seconds):	3	÷

HLS Receive Settings

Settings	Range	Description
HLS Mode	Push	Determines if the HLS receives through a
	Pull	local or network location

HLS Network Location	User Entry	Defines address of the HLS stream to be received
Profile / Bandwidth	User Selected	After entering an HLS network location and clicking "Apply and Refresh", a list of available profiles will be displayed
Decryption Mode	Disabled AES 128	Defines if a decryption of the received signal is needed, AES 128 standard
Decryption Key	User Entry	Provides the key to allow signal processing if decryption is to be done
Discovery Timeout (seconds)	1 – 100, use 0 for infinite	Defines the length of time to wait for the stream to be discovered

Seamless RTP Receive Settings

The figure below shows the options available when the "Receive Type" is set to "Seamless RTP".

Configure		
Input 1 Output 1		
Receive Type:	Seamless RTF	~
Receive:	Enabled	Ŧ
Path 1 Interface:	eth0	Ŧ
VLAN:	None	Ŧ
Path 1 Destination IP:	239.192.0.200)
Path 1 Destination Port:	10000	÷
Path 1 IGMP Filter Mode:	Exclude	Ŧ
Add IGMP Address		Remove All
IGMP Address		Remove
Path 2 Interface:	eth0	
VLAN:	None	~
Path 2 Destination IP:	239 192 0 200)
Path 2 Destination Port:	10000	
Path 2 IGMP Filter Mode:	Exclude	•
Add IGMP Address		Remove All
IGMP Address		Remove
	Apply	Cancel

Seamless RTP Receive Settings

Settings	Range	Description
Path 1 or 2 Destination IP	XXX.XXX.XXX	Defines the address of the first or second path to be received

Path 1 or 2 Destination Port	1 - 65535	Defines the port of the first or second path to be received		
Path 1 or 2 IGMP Filter	Include, Exclude	Defines filter to include or exclude		
Mode		addresses contained in IGMP list box		
Path 1 or 2 IGMP List	The list box for each pa	ath will comprise the addresses entered by		
Box	the user, and define the sources input signals can be accepted from (Include), or sources that input signals are not to be accepted from (Exclude)			

Click the 🔳 icon by the Seamless RTSP input to view information about the incoming stream. Clicking the 🗐 icon will hide the Seamless RTSP receive statistics.

Channel 6					0
Configure Channel Ad	d Input Add Ou	tput Switch to Backup	Input		Remove
Input Selection	Active: Sean	nless RTP Receive 1 Prim	ary: Seamless R1	P Receive 1 Backup: None	
🖃 🥒 Input 1 (Seamles	ss RTP)	Path 1: 239.192.0.200:10000	F	Path 2: 239.192.0.200:10000	🗶 0.000 Mbps 🔴
Status Sync Status: Active Path: Packets Per Frame: Encapsulation:	Unlocked 0 0 N/A	Path 1 Statistics Out of Order Packets: Duplicate Packets: Lost Packets: Discontinuity: Last Reset:	0 0 2021-04-26 06:44:55	Path 1 Configuration Physical Connector: eth0 VLAN: None IGMP Mode: Exclude	Path 1 IGMP Filter List
		Path 2 Statistics Out of Order Packets: Duplicate Packets: Lost Packets: Discontinuity: Last Reset:	0 0 0 2021-04-26 06:44:55	Path 2 Configuration Physical Connector: eth0 VLAN: None IGMP Mode: Exclude	Path 2 IGMP Filter List
		🔧 Reset Count	ters		Unsolicited IGMP Report

Seamless RTSP Receive Statistics

The Reset Counters button is used to reset all the statistics for incoming Seamless

RTSP and establish a new point of reference.

RIST Receive Settings

The figure below shows the options available when the "Receive Type" is set to "RIST".

Receive: Enabled Interface: eth0 VLAN: None Profile Mode: Simple Mode: Unicast Destination IP: 239.192.0.200 Destination Port: 10000 Latency (ms): 1000 FEC: Disabled Decryption Mode: Disabled Passphrase:	Receive Type:	RIST	
Interface:	Receive:	Enabled	
VLAN: None Profile Mode: Simple Mode: Unicast Destination IP: 239.192.0.200 Destination Port: 10000 Latency (ms): 1000 FEC: Disabled Decryption Mode: Disabled Passphrase:	Interface:	eth0	
Profile Mode: Simple Mode: Unicast Destination IP: 239.192.0.200 Destination Port: 10000 Latency (ms): 1000 FEC: Disabled Decryption Mode: Disabled Passphrase: •••••••••	VLAN:	None	
Mode: Unicast Destination IP: 239.192.0.200 Destination Port: 10000 Latency (ms): 1000 FEC: Disabled Decryption Mode: Disabled Passphrase: ••••••••••••••••••••••••••••••••••••	Profile Mode:	Simple	
Destination IP: 239.192.0.200 Destination Port: 10000 Latency (ms): 1000 FEC: Disabled Decryption Mode: Disabled Passphrase: ••••••••••••••••••••••••••••••••••••	Mode:	Unicast	
Destination Port: 10000 Latency (ms): 1000 FEC: Disabled Decryption Mode: Disabled Passphrase: ••••••••••••••••••••••••••••••••••••	Destination IP:	239.192.0.200	
Latency (ms): 1000	Destination Port:	10000	÷
FEC: Disabled Disabled Passphrase:	Latency (ms):	1000	÷
Decryption Mode: Disabled Passphrase:	FEC:	Disabled	
Passphrase:	Decryption Mode:	Disabled	-
	Passphrase:	******	

RIST Receive Settings

Settings	Range	Description
Profile Mode	Simple	Specifies the RIST profile mode by which
	Main	to receive the incoming stream
Mode	Unicast	Multicast setting allows the unit to receive
	Multicast	multicast streams. Multicast streams
	Wullicast	originate from the IP range 224.0.0.0 –
		239.255.255.255. Unicast allows the unit
		to receive unicast streams. Unicast
		streams originate directly from a source
		device
Destination IP	XXX.XXX.XXX.XXX	Defines the address of the stream to be
		received
Destination Port	1026 – 65534	Defines the port of the stream to be
		received. When using Simple Profile
		Mode, only even numbers are valid.
Latency (ms)	1 – 8000	Defines buffer size in milliseconds
Decryption Mode	Disabled	Specifies if the incoming RIST stream
		needs to be decrypted. Can only be
	DILS	enabled when using Main Profile Mode.
	PSK	DTLS Decryption will require public and
		private kevs as configured
Passphrase	User entry	Provides the key to allow signal processing
		if PSK decryption is to be done

Click the 🔳 icon by the RIST input to view information about the incoming stream. Clicking the 🖃 icon will hide the RIST receive statistics.

Channel 5								0
Configure Channel Add	Input Add Ou	tput Switch to E	Backup Input				Remo	ove
Input Selection	Active: RIST	Receive 1 Primar	y: RIST Receive 1 Backu	p: None				
😑 🥒 Input 1 (RIST)		Interface: eth0	255.255.255.255.65	535		×	0.000 Mbps	۲
Status		Statistics		Configuration				
Connection State:	Invalid	Reconnections:	0	VLAN:	None			
Up Time:	00:00:00:00	Received Packets:	0	Profile Mode:	Simple			
Decryption State:	Unsecured	Received Bytes:	0 Bytes	Stream Mode:	Unicast			
Round Trip Time	0	Lost Packets:	0	Decryption Mode:	Disabled			
(ms):		FEC Uncorrected	0	FEC State:	Disabled			
Buffer Size (ms):	0	Packets:	· ·					
Jitter (ms):	0	FEC Recovered	0					
Latency (ms):	0	Packets:						
Link Bandwidth:	0.000 Mbps	RTCP NAKS:	0					
FEC Colums:	0	RTCP Recovered	0					
FEC Rows:	0	Packets:						
TS Packets per RIST Packet:	0	Last Reset:	2021-04-26 01:24:56					
		🔁 🥵 Res	et Counters					

RIST Receive Statistics

The Reset Counters button is used to reset all the statistics for incoming RIST

packets and establish a new point of reference.

Output Settings

This menu is used to configure IP transmit settings for MPEG/IP, SRT, Zixi and RIST. The output available configuration options will change based on the protocol the user selects for the "Transmit Type" field.

There are three settings common to all protocols: "Transmit", which can be set to Enabled or Disabled, "Interface", which can be set to eth0 or eth1 (options may change depending on number of interfaces and user defined interface name) and "VLAN", which will add VLAN tags to outbound streams.

Input 1 Output 1 Transmit Type: MPEG/IP Transmit: Enabled Interface: eth0 VLAN: None Destination IP: 239.192.0.201 Destination Port: 10000 Source IP Mode: Auto Source IP: 0.0.00 Source Port: 3020 Source MAC Mode: Auto Source MAC: 00:00:00:00:00 TS Packets Mode: Auto	Configure		
Transmit Type:MPEG/IPTransmit:EnabledInterface:eth0VLAN:NoneDestination IP:239.192.0.201Destination Port:10000Source IP Mode:AutoSource IP:0.0.0Source Port:3020Source MAC Mode:AutoSource MAC:00:00:00:00:00TS Packets Mode:Auto	Input 1 Output 1		
Transmit:EnabledInterface:eth0VLAN:NoneDestination IP:239.192.0.201Destination Port:10000Source IP Mode:AutoSource IP:0.0.0Source Port:3020Source MAC Mode:AutoSource MAC:00:00:00:00:00TS Packets Mode:Auto	Transmit Type:	MPEG/IP	-
Interface:eth0VLAN:NoneDestination IP:239.192.0.201Destination Port:10000Source IP Mode:AutoSource IP:0.0.0Source Port:3020Source MAC Mode:AutoSource MAC:00:00:00:00:00TS Packets Mode:Auto	Transmit:	Enabled	Ŧ
VLAN:NoneDestination IP:239.192.0.201Destination Port:10000Source IP Mode:AutoSource IP:0.0.00Source Port:3020Source MAC Mode:AutoSource MAC:00:00:00:00:00TS Packets Mode:Auto	Interface:	eth0	Ŧ
Destination IP:239.192.0.201Destination Port:10000Source IP Mode:AutoSource IP:0.0.0Source Port:3020Source MAC Mode:AutoSource MAC:00:00:00:00:00TS Packets Mode:Auto	VLAN:	None	Ŧ
Destination Port: 10000 Source IP Mode: Auto Source IP: 0.0.0.0 Source Port: 3020 Source MAC Mode: Auto Source MAC: 00:00:00:00:00 TS Packets Mode: Auto	Destination IP:	239.192.0.201	
Source IP Mode: Auto Source IP: 0.0.0.0 Source Port: 3020 Source MAC Mode: Auto Source MAC: 00:00:00:00:00 TS Packets Mode: Auto	Destination Port:	10000	*
Source IP: 0.0.0.0 Source Port: 3020 Source MAC Mode: Auto Source MAC: 00:00:00:00:00 TS Packets Mode: Auto	Source IP Mode:	Auto	Ŧ
Source Port: 3020 Source MAC Mode: Auto Source MAC: 00:00:00:00:00 TS Packets Mode: Auto	Source IP:	0.0.0.0	
Source MAC Mode: Auto Source MAC: 00:00:00:00:00 TS Packets Mode: Auto	Source Port:	3020	*
Source MAC: 00:00:00:00:00:00 TS Packets Mode: Auto	Source MAC Mode:	Auto	*
TS Packets Mode: Auto -	Source MAC:	00:00:00:00:00:00)
	TS Packets Mode:	Auto	Ŧ
TS Packets Per IP Packet: 7	TS Packets Per IP Packet:	7	\$
Encapsulation: UDP -	Encapsulation:	UDP	Ŧ

Universal Transmit Settings

MPEG/IP Output Settings

The figure shows the options available when the "Transmit Type" is set to "MPEG/IP".

Input 1 Output 1		
Transmit Type:	MPEG/IP	Ŧ
Transmit:	Enabled	~
Interface:	eth0	~
VLAN:	None	~
Destination IP:	239.192.0.200	
Destination Port:	10000	
Source IP Mode:	Auto	*
Source IP:	0.0.0	
Source Port:	3020	÷
Source MAC Mode:	Auto	~
Source MAC:	00:00:00:00:00:00)0
TS Packets Mode:	Auto	~
TS Packets Per IP Packet:	7	÷
Encapsulation:	UDP	~
	Apply	Cancel

MPEG/IP Output Settings

Settings	Range	Description
Destination IP	224.0.0.0 -	This setting is only available when
	239.255.255.255	receiving a multicast stream. This is the
		address the unit will attempt to join

Destination Port	0 – 65535	This is the UDP port the source device is sending to. This is the only setting required to receive a unicast stream but is also required for multicast
Source IP Mode	Auto Manual	When set to <i>Auto</i> , the source IP address on the output stream will match the corresponding local interface. When set to <i>Manual</i> , a user entered address can be assigned to the output stream
Source IP	XXX.XXX.XXX.XXX	Defines the Source IP address to be assigned to the output stream
Source Port	0 – 65535	Defines the source IP port to be assigned to the output stream
Source MAC Mode	Auto Manual	When set to <i>Auto</i> , the source MAC address of the output stream will match the corresponding local interface. When set to <i>Manual</i> , a user entered address can be assigned to the output stream
Source MAC	XX:XX:XX:XX:XX:XX	The user defined MAC for when using Manual MAC Mode
TS Packets Mode	Auto Manual	In <i>Auto</i> mode, the source will define the number of TS packets per IP packet. In <i>Manual</i> mode, the user will define the number of TS packets per IP packet
TS Packets per IP Packet	1-7	The number of TS packets that are contained with a single IP packet. Default is 7. Lowering this value below default increases network overhead
Encapsulation	UDP RTP	Sets the Encapsulation to UDP or RTP

SRT Output Settings

The figure below shows the options available when the "Transmit Type" is set to "SRT".

Input 1 Output 1		
Transmit Type:	SRT	~
Transmit:	Enabled	~
Interface:	eth0	Ŧ
VLAN:	None	Ŧ
Call Mode:	Caller	~
Remote Host:	1.0.0.1	
Remote Port:	10000	÷
Local Port Mode:	Auto	~
Local Port:	10000	÷
Discovery Timeout (seconds):	3	* *
Latency (ms):	125	÷
Bandwidth Overhead (%):	25	-
TS Packets Mode:	Auto	~
TS Packets Per SRT Packet:	7	\$
Time To Live (hops):	64	*
Type Of Service:	0	*
Encryption Mode:	Disabled	v
Passphrase:		
	Apply	Cancel

SRT Output Settings

Settings	Range	Description
Call Mode	Caller	Defines the 'handshake' mechanism to be used when establishing connection
	Listener	used when establishing connection.
	Rendezvous	
Remote Host	XXX.XXX.XXX.XXX	Defines the IP address of the stream on

Remote Port	0 – 65535	Defines the port of the stream on the
		remote devices
Local Port Mode	Auto	In Auto mode, the local port number will be
	Monuel	assigned automatically
	Manual	In Manual mode, the local port number will
		be defined by the user
	4 05505	
Local Port	1 – 65535	Defines the local port number
Discovery Time (seconds)	1 – 100, use 0 for	Defines the length of time to wait for the
	infinite	stream to be discovered
Latency (ms)	1 – 8000	Defines buffer size in milliseconds
Bandwidth Overhead (%)	0 – 50	Defines the amount of bandwidth overhead
		to allow for
TS Baakata Mada	Auto	In Automode, the source will define the
IS Packets mode	Auto	number of TS packets per SRT packet
	Manual	
		In Manual mode, the user will define the
		number of TS packets per SRT packet
TS Packets per SRT Packet	1 – 7	Defines the number of TS packets per SRT
		packet when mode is Manual
Time To Live (hops)	1 – 254	Defines the number of network devices the
		transmission is allowed to pass through
Type of Service	0 – 255	Specifies the desired Quality of Service
		(QoS). This value will be assigned to the
		Type of Service field of the IP Header for
		the outgoing stream.
Encryption Mode	Disabled	Defines which encryption standard to use
	AFS-128	or if the CP2-IP-00 will automatically detect
		this.
	AES-256	
Passphrase	10 – 79 characters	Defines the encryption passphrase

the remote device

Click the \blacksquare icon by the SRT input to view information about the incoming stream. Clicking the icon will hide the SRT output statistics.

nannel 3									0
onfigure Channel Add	nput Add Ou	tput Switch to I	Backup Input					Ren	nove
Input Selection	Active: SRT	Receive 1 Primary	y: SRT Receive 1 Backup	: None					
🗄 🥜 Input 1 (SRT)		Interface: eth0	255.255.255.255.65	535	Call Mode	: Caller	×	0.000 Mbps	•
🗉 🥒 Output 1 (SRT)		Interface: eth0	Connecting to 1.0.0	1:10000	Call Mode	: Caller	×	0.000 Mbps	
Status		Statistics		Configuration					
Connection State:	Connecting	Reconnections:	9	Discovery Timeout (seconds):	3				
Up Time:	00:00:00:00	Sent Packets:	0	Bandwidth Overhead (%):	25				
Local Port:	0	Sent Bytes:	0 Bytes	TS Packets Mode:	Auto				
Encryption Mode:	Disabled	Resent Packets:	0	TS Packets:	7				
Remote Decryption	Unsecured	Resent Bytes:	0 Bytes	Time To Live (hops):	64				
State:		Dropped Packets:	0	Type Of Service:	0x0				
Round Trip Time (ms):	0	Dropped Bytes:	0 Bytes	Encryption Mode:	Disabled				
Buffer Size (ms):	0	Received ACKs:	0	VLAN:	None				
Latency (ms): Maximum Dandwidth	0.000 Mhos	Received NAKs:	0						
PidAlmum Danuwiuun:	0.000 Mbps								
Bandwidth:	0.000 Mbps	Last Keset:	2021-04-26 01:24:12 et Counters						

SRT Output Statistics

The Reset Counters button is used to reset all the statistics for incoming SRT packets and establish a new point of reference.

Zixi Output Settings

The figure below shows the options available when the "Transmit Type" is set to "Zixi".

Input 1 Output 1			
Transmit Type:		Zixi	Ŧ
Transmit:		Enabled	~
Interface:		eth0	~
VLAN:		None	~
Remote Host:			
Alternate Remote Host:			
Remote Port:		2088	
Stream ID:			
Password:			
Ignore TLS Certificate Error:		Do Not Igno	re 💌
Maximum Latency (ms):		4000	÷
Encryption Mode:		Disabled	~
Encryption Key:			
Maximum Bitrate (Mbps)		8	* *
FEC Overhead (%):		30	* *
TS Packets Mode:		Auto	~
TS Packets Per Zixi Pacl	ket:	7	* *
Bonding Mode:		Disabled	~
Interface 🕇	Bandwidth I	_imit(Mbps)	Priority
Internal	8		Primary
eth0	8		Primary
eth1	8		Primary
eth2	8		Primary
		Apply	Cancel

Zixi Output Settings

Settings	Range	Description
Remote Host	XXX.XXX.XXX.XXX	Defines the host of the remote broadcast
	Domain Name	using an IP address or domain name
Alternate Remote Host	XXX.XXX.XXX.XXX	Defines the alternate host of the remote
	Domain Name	broadcast using an IP address or domain name
Remote Port	0 – 65535	Defines the port of the stream on the remote device

Stream ID	User entry	Defines the Zixi stream ID to be transmitted
Password	User entry	Provides the password to allow specific Stream ID entered to be received
Ignore TLS Certificate Error	Do Not Ignore Ignore	Defines whether to cease or continue processing if TLS Certificate Error is signaled
Maximum Latency (ms)	30 – 10,000	Defines the maximum latency or buffer size (in milliseconds)
Encryption Mode	Disabled AES-128 AES-192 AES-256 Automatic	Defines which encryption standard to use or if the CP2-IP-00 will automatically detect this
Encryption Key	User entry	The key to be used by downstream decryption devices
FEC Overhead (%)	0 – 50	Defines the amount of static overhead to be used to accommodate FEC
TS Packets Mode	Auto Manual	In <i>Auto</i> mode, the source will define the number of TS packets per Zixi packet. In <i>Manual</i> mode, the user will define the number of TS packets per Zixi packet.
TS Packets per Zixi Packet	1 – 7	User defined value for when <i>Manual</i> mode is enabled.
Bonding Mode	Disabled All interfaces One Interface Any Interface	Specifies which interfaces, if any, are to be set to bonding mode.

Interface Bonding Box	Available for One	Allows user to define parameters and
	Interface Mode	details about the port(s) when bonding
	Any Interface Mode	

Zixi transmissions can be configured to use multiple interfaces simultaneously (Port Bonding). By defining the maximum bitrate for that interface, the unit will only send up to that rate on that interface. A Primary and Backup interface may also be chosen if redundant links should be used.

Interface 🕆	Bandwidth Limit(Mbps)	Priority
Internal	8	Primary
eth0	8	Primary
eth1	8	Primary
eth2	8	Primary
Interface 🕇	Bandwidth Limit(Mbps)	Priority
Internal	al 🗘	Primary
eth0	8	Primary
eth1	8	Primary
eth2	8	Primary
Interface 🕇	Bandwidth Limit(Mbps)	Priority
Internal	8	Primary 🔻
eth0	8	Primary
eth1	8	Backup
eth2	8	Primary

Interface Bonding Boxes

Click the \blacksquare icon by the Zixi input to view information about the incoming stream. Clicking the icon will hide the Zixi Output statistics.



Zixi Output Statistics

The

Reset Counters

button is used to reset all the statistics for incoming Zixi

packets and establish a new point of reference.

RIST Output Settings

The figure below shows the options available when the "Transmit Type" is set to "RIST".

Input 1 Output 1				
Transmit Type:		RIST		-
Transmit:		Enabled		-
Interface:		eth0		*
VLAN:		None		-
Profile Mode:		Simple		-
Tunneling Mode:		Full Datagram		v
Destination IP:		1.0.0.1		
Destination Port:		10000		-
Source Port:		3020		*
Latency (ms):		1000		*
FEC Transmission:		Off		*
FEC Columns:		4		÷
FEC Rows:		4		÷
Encryption Mode:		Disabled		Ŧ
Passphrase:		****		
Ignore TLS Certificate Error:		Do Not Ignore		Ŧ
Bonding Mode:		Disabled		-
Interface 🕇	Bandwidth L	.imit(Mbps)	Priority	
Internal	8		Primary	
eth0	8		Primary	
eth1	8		Primary	
eth2	8		Primary	
		Apply	Cance	9

RIST Output Settings

Settings	Range	Description
Profile Mode	Simple Main	Specifies the RIST profile mode for the transmit instance. The <i>Simple</i> profile mode will output with the same packet structure as an RTP packet. The <i>Main</i> profile mode will add more header information for use with the tunnel function
Tunneling Mode	Full Datagram	When set to Full Datagram, the IP header

	Reduced Overhead	and UDP header will be re-added to each packet to help identify the channel. When set for <i>Reduced Overhead</i> , the source port and destination port will be added to the header to help identify the channel. Exclusive to Main Profile Mode.
Destination IP	XXX.XXX.XXX.XXX	Defines the address of the stream to be received
Destination Port	1026 – 65534	Defines the port of the stream to be received. When using <i>Simple</i> Profile Mode, only even numbers are valid.
Source Port	1026 – 65534	Specifies the transmit source port
Latency (ms)	1 – 8000 S	Specifies buffer size in milliseconds
Encryption Mode	Disabled DTLS PSK	Defines which encryption standard the RIST transmit instance will use. Exclusive to <i>Main</i> Profile Mode. DTLS encryption will require uploading public and private keys as configured in Enabling DTLS
Passphrase	User entry	The encryption passphrase. Exclusive to <i>PSK</i> Encryption Mode.
Ignore TLS Certificate Error	Do Not Ignore Ignore	Defines whether to cease or continue processing if TLS Certificate Error is signaled
Bonding Mode	Disabled All interfaces	Specifies which interfaces, if any, are to be set to bonding mode.
	One Interface	when Encryption Mode is set to DTLS.

Interface Mode

details about the port(s) when bonding

Any Interface Mode

RIST transmissions can be configured to use multiple interfaces simultaneously (Port Bonding). By defining the maximum bitrate for that interface, the unit will only send up to that rate on that interface. A Primary and Backup interface may also be chosen if redundant links should be used.

Interface 🕆	Bandwidth Limit(Mbps)	Priority
Internal	8	Primary
eth0	8	Primary
eth1	8	Primary
eth2	8	Primary
Interface 🕇	Bandwidth Limit(Mbps)	Priority
Internal	a ÷	Primary
eth0	8	Primary
eth1	8	Primary
eth2	8	Primary
Interface 🕇	Bandwidth Limit(Mbps)	Priority
Internal	8	Primary 🔻
eth0	8	Primary
eth1	8	Backup
eth2	8	Primary

Interface Bonding Boxes

Click the \blacksquare icon by the RIST input to view information about the incoming stream. Clicking the icon will hide the RIST Output statistics.


RIST Output Statistics

The Reset Counters button is used to reset all the statistics for incoming RIST packets and establish a new point of reference.

Additional Receive Instances

Each gateway can be configured for multiple input instances. To add an additional receive instance,

click on the Add Input button in the top left corner of the gateway section. The gateway configuration window will open with a new "Input 2" tab, offering the same settings as the initial input tab.

Removing a channel from the configuration can be done by clicking on the **Remove** button located at the right side of the channel ribbon. Any configured input instance can also be removed by clicking on

the ***** button located within the input row. When either of the icons is clicked, the system will prompt the user with confirmation of intent to remove the item from the configuration

Only one additional input instance can be added, so the option becomes gray as shown below after the second path is added.

Channel 1							
Configu	Configure Channel Add Input Add Output Switch to Backup Input Remove						
d	P Input Selection	Active: MPEG/IP Receive 1 Prim	ary: MPEG/IP Receive 1 Backup: None				
± /	P Input 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mbps	•
± /	P Input 2 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mbps	•
± /	P Output 4 (MPEG/IP)	Interface: Internal	239.192.0.208:10000		×	0.000 Mbps	•

Multiple Input Instances

Configuring Active Inputs and Failover

When two input instances are configured, only one of them can be assigned to the output instances. The Input Selection menu is used to determine which receive instance is the primary and backup.

Channel 1	
Configure Channel Add Input Add Output Switc	h to Backup Input
Input Selection Active: MPEG/IP Receive 1	Primary: MPEG/IP Receive 1 Backup: None
Input 1 (MPEGIP) Interface: eth0	Configure Input Selection
🗉 🥒 Input 2 (MPEG/IP) Interface: eth0	Input: MPEG/IP Receive 1 -
🗉 🥒 Output 4 (MPEG/IP) Interface.	Backup Input: MPEG/IP Receive 2
	Switch On: TS Sync Loss -
Channel 3	Restore On: Primary Input TS Restore ~
Configure Channel Add Input Add Output Swite	Switchover (secs.): 5
Input Selection Active: SRT Receive 1 P	
Input 1 (SRT) Interface: eth0	Apply Cancel

Settings	Range	Description
Input	Input 1	Used for both normal operation and input
	Input 0	failover settings. During normal operation,
	input 2	this input will be the active input
Backup Input	Input 1	During failover operation this input will
	Incust O	become the active input. The catalyst for
	input 2	the unit to switch to this input is configured
		in the following setting.
Switch On	Manual Only	Choose the event that triggers the switch
	TS Sync Loss	from the primary to the backup input
Restore On	Manual Only	Choose the event that triggers a switch
	Primary Input TS	back to the primary input

	Restored	
	Backup Input TS Sync Loss	
Switchover (secs)	1 – 20	The amount of time the gateway must remain in the "Switch On" or "Restore On" state before automatic failover or switchback occurs

Clicking the Switch to Backup Input option under the channel will prompt the user for confirmation of intent to change the input instance assigning the output instances to source from input instance 2. Clicking Switch to Primary Input will assign the output instances to return to sourcing from input

instance 1.

Channel 1					0	
Configure Channel Add Input Add Output Switch to Primary Input Remove						
Input Selection Action	ive: None Primary: MPEG/IP Rece	eive 1 Backup: None				
🗄 🥒 Input 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mbps	٠
🗉 🖉 Input 2 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mbps	٠
🗄 🥒 Output 4 (MPEG/IP)	Interface: Internal	239.192.0.208:10000		×	0.000 Mbps	•

Active Backup Input

Additional Transmit Instance

The CP2-IP-00 will allow the user to configure a single channel for multiple output paths. To add an additional output path, click on the Add Output button in the top left corner of the Channel section. The channel configuration window will open with an additional "Output 2" tab. The new tab will offer the same settings as the initial output tab.

Removing a channel from the configuration can be done by clicking on the Remove button located at the right side of the Channel ribbon. Any configured output path can also be removed by clicking on the button located within the output row that the user wishes to remove. When either of the icons

is clicked, the system will prompt the user with confirmation of intent to remove the item from the configuration.

Which input instance the output instances will source from is dependent on the settings.

Channel 1							
Configu	Configure Channel Add Input Add Output Switch to Primary Input Remove						
Ø	Input Selection	Active: None Primary: MPEG/IP F	Receive 1 Backup: None				
± 🖉	Input 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mbps	٠
• 6	Output 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000		×	0.000 Mbps	٠
± 🖉	Output 2 (MPEG/IP)	Interface: eth0	239.192.0.201:10000		×	0.000 Mbps	٠

CP2-IP-00 > Logs

Clicking the Logs tab will redirect the user in the Reporting Control Panel. The Reporting control panel in the CP2-IP-00 module will provide the user with a list of active alarms, as well as a means to log the detected events. Active alarms are constantly updated to reflect the real-time state of the unit. Once an error is no longer detected, it will be cleared from the active alarms window. The log files can be used to view alarm and event history. Both the active alarm and event logs can be configured for specific behavior based upon the user's needs.

							Ва	sic Setting	Logs System	ı		
Reportin	g Control Pane	el										
Alarms	Logs								Configure			
State	Name				Location		Last Changed					
0	Transport Strea	am Not Pres	ent		Gateway Receive 3 (Gatewa	ay 3)	2012-01-17 05:16:48					
0	Transport SI								Basic Sett	ina	Logs	System
0	Transport St											-,
0	Transport SI	Reportir	ng Control Panel									
0	SRT Receiv	Alarms	Logs									Configure
0	SRT Transm	🔁 Refre	sh 👪 Clear	Download								
0	RIST Receiv	Soucrity	Timostamp	Transition	Location	Magaza						
•	DICT T	Seventy	Timestamp	Transition	Location	wessage						
		0	2021-05-07 07:55:	🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	Peer Create Failed.					
		0	2021-05-07 07:55:	🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	None					
		0	2021-05-07 07:55:	🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	Peer Create Failed.					_
		0	2021-05-07 07:55:	🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	None					
		0	2021-05-07 07:55:	🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	Peer Create Failed.					
		0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	SRT Transmit Connection Error:	The discovery timeout dura	tion has elapse	ed.			
		0	2021-05-07 07:54:	🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	None					

Alarms

			Basic Setting Logs	System
Reporti	ng Control Panel			
Alarms	Logs		C	onfigure
State	Name	Location	Last Changed	
0	Transport Stream Not Present	Gateway Receive 3 (Gateway 3)	2012-01-17 05:16:48	
0	Transport Stream Not Present	Gateway Receive 4 (Gateway 4)	2012-01-17 05:16:52	
0	Transport Stream Not Present	Gateway Receive 5 (Gateway 5)	2012-01-17 05:16:52	
0	Transport Stream Not Present	Gateway Receive 6 (Gateway 6)	2012-01-17 05:16:52	
0	SRT Receive Connection Error	Gateway Receive 1 (Gateway 3)	2012-01-17 05:16:44	
0	SRT Transmit Connection Error	Gateway Transmit 1 (Gateway 3)	2012-01-17 05:16:48	
0	RIST Receive Connection Error	Gateway Receive 1 (Gateway 5)	2012-01-17 05:16:45	

Clicking on the Alarms button displays the Active Alarms menu. This list displays all of the active alarms currently being reported by the unit. There are four columns in the log that display different types of information

Alarms				
Column Name	Description			
State	This area displays an icon that will signify the importance of the event			
	The ¹ icon means the message is Informational and no error has been detected.			
	The 🤨 icon means the message is an Alarm and the unit status has been set to 'Error'			
Name	This column displays the description of the detected instance.			
Location	This column displays the hardware or function that is experiencing the active error.			
Last Changed	This column displays the data and time the error was raised. Timestamps here are determined with the Date and Time settings configured in the Time tab under System Setting of the CMP baseboard			

Configuring the Alarms

The CP2-IP-00 module monitoring points are divided into Conditions and Events and are managed separately. Configuration of these is done by clicking on the configuration cog in either the Alarms or Logs window.

			Basic Setting	Logs System
Repor	ting Control Panel			
Alar	Logs			Configure
State	Name	Location	Last Changed	

Conditions

These instances are monitored within specific hardware and stream processing paths. How the CP2-IP-00 module responds to the detection of the instance can be configured. Three 'checkbox' columns allow the user to define the system response. The checkbox at the top of the column can be used to enable or disable all instances in that column.

S Configure Conditions and Events						
Conditions Events						
Name 🕇	Location 1	Log 🗹	Severity	Alarm 🗹	SNMP Trap	
Dropped Packets Error	Internal(eth3)	~	Error	2	≜	
Dropped Packets Error	eth0	\checkmark	Error	\checkmark		
Dropped Packets Error	eth1	\checkmark	Error	\checkmark		
Dropped Packets Error	eth2	\sim	Error	\checkmark		
HLS Receive Connection Error	Gateway Receive 1 (Gateway 1)	\checkmark	Error	\checkmark		
HLS Receive Connection Error	Gateway Receive 1 (Gateway 3)	\checkmark	Error	\checkmark		
HLS Receive Connection Error	Gateway Receive 1 (Gateway 4)	\checkmark	Error	\checkmark		
HLS Receive Connection Error	Gateway Receive 1 (Gateway 5)	\checkmark	Error	\checkmark		
HLS Receive Connection Error	Gateway Receive 1 (Gateway 6)	\sim	Error	\checkmark		
MPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 1)	\checkmark	Error	\checkmark		
MPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 3)	\checkmark	Error	\checkmark		
MPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 4)	\checkmark	Error	\checkmark		
MPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 5)	\checkmark	Error	\checkmark		
MPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 6)	\checkmark	Error	\checkmark		
MDEG/ID Transmit I Inicast Dan	Cotaway Transmit ? (Cotaway 1)	1	Error	Z		
				Appl	y Cancel	

Logs			
Column Name	Description		
Name	Defines the error message that will be provided if the instance is detected.		
Location	This shows the user the specific hardware or stream processing path where the instance is detected.		
Log	A checked box defines which instances will be recorded to the log file		
Severity	A dropdown box within the row allows the user to define the instance as an Error or Information event.		
Alarm	A checked box defines which instances will raise an Alarm condition on the unit. This will cause the Error LED on the front of the unit and		

	in the web client to illuminate.
SNMP Trap	A checked box defines which instances will trigger the CP2-IP-00 to send trap messages.

The APPLY button at the bottom of the window will commit the settings changes to the system, while the CANCEL button will ignore any settings changes and close the configuration window.

Events

These instances are global to the system because they will have an impact on all hardware and stream processing areas of the CP2-IP-00 module. These instances can only be configured to be recorded in the log file and/or to be sent as SNMP Trap messages.

Configure Conditions and Ev	rents		
Conditions Events			
Name 🕇	Location 1	Log 🗹	SNMP Trap
Date/Time Changed	Unit	~	
NTP Updated	Unit	\checkmark	
Software Update Failed	Unit	\checkmark	
Software Update Succeeded	Unit	\checkmark	
Unit Booted	Unit	\checkmark	
		Apply	Cancel

Events		
Column Name	Description	
Name	Defines the error message that will be provided if the instance is detected.	
Location	This will always be "Unit" since these instances are global	
Log	A checked box defines which instances will be recorded to the log file.	
SNMP Trap	A checked box defines which instances will trigger the CP2-IP-00	

module to send a trap message.

Event Logs

				Basic S	etting	Logs	System	n
Reportin	ng Control Panel							
Alarms	Logs						Configure	•
😴 Refre	sh 📕 Clear 📑	Download						-
Severity	Timestamp	Transition	Location	Message				Γ
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: None				4
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: Peer Create Failed.				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: None				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: Peer Create Failed.				7
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: None				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: Peer Create Failed.				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: None				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: Peer Create Failed.				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: None				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: Peer Create Failed.				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: None				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: Peer Create Failed.				
0	2021-05-07 07:55:	×	Gateway Transmit 1 (Ga	SRT Transmit Connection Error: The discovery timeout duration has elapsed.				
0	2021-05-07 07:54:	×	Gateway Transmit 1 (Ga	RIST Transmit Connection Error: None				
•	2024 05 07 07.54.	-	0-ii-4 /0-	This Tanana is A second and The second shares have discovered at				

The Logs window provides the user a display of the log file and management tools to streamli ne the data returned. There are three buttons that will manage the log file.



The log file itself is made up of five columns that explain each event, when it occurred, and th e area of the system where the event was detected.

Column Name	Description
Severity	The ¹¹ icon means the message is Informational and no error has been detected.
	The ^{① Error} icon means the message is an Alarm and the unit status has been set to 'Error'.
Timestamp	This is the CP2-IP-00 module associated date and time of the instance.
Transition	The ^{S Went Bad} icon means the instance entered into an Error state. The ^{O Went Good} icon means the instance entered into a Clear state.
	The ^{F Event} icon means a single point instance (such as NTP Time was updated) took place.
Location	Defines the hardware or function that experienced the alarm or event.
Message	This displays the description of the specific path that experienced the instance.

Configuring the Logs

Configuration of the logs will provide the user with the same configuration options as covered in **the Configuration of the Alarms.**

CP2-IP-00 > System

System Control Panel	
Profiles SNMP MBs Diagnostics Security Update Unit 🗊 Re	eboot 🦻 Reset to Defaults

Profile Manager				
Add 1 Upload Last Profile Applied:				
Profile Name 🕇		Download	Rename	Delete
Receive_Profile		1	P	×
		Appl	y C	lose

The CP2-IP-00 has the ability to save all configured settings to multiple profiles. Profiles can be saved locally, renamed and saved to external storage to be used on other CP2-IP-00 modules. Profiles can be used to quickly and easily change the configuration of the module to suit different inputs and decoding requirements.

Add New Profile	Add	Used to create or add a new profile to the profile list
Upload Profile	1 Upload	Used to upload a profile to the module from
		the user pc
Apply Profile	Apply	Used to apply a profile selected from
		profile list
Rename Profile	Ø	Used to edit the selected profile name
Delete Profile	×	Used to delete a profile from the profiles list
Download Profile	4	Used to download a profile selected from
		the list to the user pc

SNMP MIB files

System Control Panel	
Profiles SNMP MBs Diagnostics Security	Update Unit 🚺 Reboot 🛜 Reset to Defaults

The SNMP MIB files for the CP2-IP-00 can be obtained by clicking on the SNMP MIBs button at the top of the page. This will open a new tab within the current web browser and give the user a list of all

available MIB files. Directions on how to save them to an external storage location are provided at the bottom of the list.

S CMP201 ×	Index of /mibs/		× +
← → ℃ ▲ 不安全 192.168	1.12/mibs/		
👖 应用 🂠 设置 🚺 从 IE 中导入 🚺	已导入		
Index of /mibs/			
Name Parent Directory/	Last Modified	Size	Type Directory
INET-ADDRESS-MIB.MIB	2021-Apr-23 09:11:40	16.3K	application/octet-stream
SENCORE-CPIP00-MIB.mib	2021-Apr-23 08:55:31	141.5K	application/octet-stream
SENCORE-CSP-MIB.MIB	2021-Apr-23 08:55:34	98.9K	application/octet-stream
SENCORE-GLOBAL-REG.MIB	2021-Apr-23 08:55:34	2.3K	application/octet-stream
SNMP-COMMUNITY-MIB.MIB	2021-Apr-23 09:11:44	15.1K	application/octet-stream
SNMP-FRAMEWORK-MIB.MIB	2021-Apr-23 09:11:44	21.8K	application/octet-stream
SNMP-MPD-MIB.MIB	2021-Apr-23 09:11:44	5.3K	application/octet-stream
SNMP-TARGET-MIB.MIB	2021-Apr-23 09:11:39	22.2K	application/octet-stream
SNMP-USER-BASED-SM-MIB.MIB	2021-Apr-23 09:11:44	38.2K	application/octet-stream
SNMP-VIEW-BASED-ACM-MIB.MIB	2021-Apr-23 09:11:44	33.3K	application/octet-stream
SNMPv2-MIB.MIB	2021-Apr-23 09:11:43	28.6K	application/octet-stream
SNMPv2-SMI.MIB	2021-Apr-23 09:11:38	8.7K	application/octet-stream
SNMPv2-TC.MIB	2021-Apr-23 09:11:38	37.1K	application/octet-stream
To Download: Right-Click Save Link &s or	Sava Targat às		

Diagnostics

System Control Panel Profiles SNMP MIBs Diagnostics Security		Update Unit 🙀 Reboot 🔗 Reset to Defaults
	Downloading Diagnostics File	
	Generating Diagnostics File	
	30%	

The CP2-IP-00 provides the user the ability to take a snapshot of the ALL current unit settings, reported values, active alarms, and the alarm and log file history. This snapshot will be downloaded as an .XML format file that can be attached in an email or opened for viewing.

Click the 'Diagnostics' button and a window will open showing the diagnostic file creation progress.

This window is replaced with a download file window when file creation is complete. The user will be asked to 'Open' or 'Save' the file. Selecting the Save option will download the .XML file to the pc 'downloads' location.

Security

System Control Panel	
Profiles SNMP MIBs Diagnostics Security	Update Unit 🕅 Reboot 🥱 Reset to Defaults

The Security is used to configure self-signed certificate information.

Additionally, using public and private keys, this menu is used to enable DTLS encryption and decryption on RIST receive and transmit instances.

Certificate Signing Request	
Country Name:	US
State or Province Name:	Delaware
Locality Name:	Wilmington
Organization Name:	Sencore Inc
Organizational Unit Name:	
Common Name:	
Email Address:	
Certificate Signing Request File Name	e:
Generate New CSR File:	Generate
Download Generate CSR File:	Download
Delete Old CSR File:	Delete
Delete Old Local Private Key File:	Delete
.ocal Certificate File:	1 Upload
.ocal Private Key File:	1 Upload
Remote Certificate File:	1 Upload

Security Manager Menu

Settings	Range	Description
Name	User entry	Country Name for generated CSR file
State or Province Name	User entry	State/Province Name for generated CSR file

Locality Name	User entry	Locality Name for generated CSR file
Organization Name	User entry	Organization Name for the generated CSR file
Organizational Unit Name	User entry	Organizational Unit Name for the generated CSR file
Common Name	User entry	Common Name for the generated CSR file
Email Address	User entry	Email Address for reference on the generated CSR file
Generate New CSR File	Generate	This icon will generate a new Certificate Signing Request file (CSR) using the configured IP from eth0 for the CSR file name. Additionally, the Security Manager will generate a local private key file to be used with the downstream
Download Generate CSR File	Download	This icon will download the locally generated CSR file onto a remote machine
Delete Old CSR File	Delete	This icon will delete the locally generated CSR file
Delete Old Local Private Key File	Delete	This icon will delete the locally generated private key file
Local Certificate File	1 Upload	Use this icon to upload the local certificate file
Local Private Key File	1 Upload	Use this icon to upload the local private key file
Remote Certificate File	1 Upload	Use this file to upload the remote certificate file

Upon clicking Generate, the system will generate a new CSR file and local private key for use with the downstream receiver.

Certificate Signing Request File N	ame:	0.0	.0.0.csr
Generate New CSR File:		Gene	rate
Download Generate CSR File:		Down	load
Delete Old CSR File:		Dele	te
Delete Old Local Private Key File:		Dele	te
Local Certificate File:		1	Upload
Local Private Key File:	private_key.pem	1	Upload
Remote Certificate File:		T	Upload

Generated Private Key and CSR Files

Enabling DTLS

In order to make a successful DTLS connection when enabling encryption and decryption on RIST receive and transmit instances, a "Local Certificate File", "Local Private Key File" and "Remote Certificate File" must be uploaded to the Security Manager.

As shown in the figure, the same Certificate File may be uploaded to both the Local and Remote Certificate File fields.

Local Certificate File:		Upload
Local Private Key File:	private_key.pem	1 Upload
Remote Certificate File:		1 Upload

Uploaded Key and Certificate Files

When making a DTLS connection between a CP2-IP-00 that is transmitting RIST and a CP2-IP-00 that is receiving RIST, these same files must be uploaded to both units. Additionally, both the output and input instance on each unit must have Profile Mode configured for "Main" and Encryption Mode configured for "DTLS".

Updating the System Software

System Control Panel	
Profiles SNMP MBs Diagnostics Security	Seset to Defaults

Updates to the CP2-IP-00 are performed through the web interface. A software update file is provided by Wellav and then uploaded to the unit. To request the latest software version or a copy of the release notes please contact our after-sales technical support team. The 'Update Unit' button is in the top right corner of the System Control Panel. When opened this feature will allow the user to advance the software version the CP2-IP-00 operates on, or rollback the software version that the module operates on.



Applying software updates

- 1. Click Upload button and browse to the appropriate software file
- 2. A progress bar will show uploading status
- 3. Once the file is uploaded click on Yes when prompted to update
- 4. The module will reboot after a software update is complete.



Upload Software		To upload software updates to CP2-IP-00 module, click
Update		this button. The user will be prompted to navigate to an
	Upload	update file. The file will then upload to the module. When
		completed, the module with prompt the user to either
		apply the update or cancel
Delete the		Clicking this button prompts the user to confirm the
Uploaded Software		deletion of the software update from the CP2-IP-00
	Delete	module. This will also clear the Uploaded Version status
		of the Software Versions section.
Update Software to		Clicking the button starts the software update process.
Uploaded Version		The CP2-IP-00 module will prompt the user to confirm
	Update	the update. Click Yes to continue or No to cancel.

Rollback Software Updates

The CP2-IP-00 module is capable of reverting back to a previous version of software using the Rollback feature. The CP2-IP-00 accomplishes this by maintaining two separate software images; one is the most current version of software with all current settings and the other is the previous version of software with all of the previous settings. To perform a rollback, click the Update Unit button and then click the Rollback tab. The module will reboot after the rollback process is complete.

🗔 Update	Unit	
Update	Rollback	
What is This feat previousl revert to Rollback	Rollback? ure will roll the unit softw y installed version. The u their configuration prior t will initiate a reboot.	are back to the nit's settings will to the last update.
Previously Switch to P	Installed Version: reviously Installed Versio	1.0.0.RC4 n: Rollback
		Apply Cancel

Reboot the Unit

System Control Panel Profiles SNMP MIBs Diagnostics Security		Update Unit	Reboot Reset to Defaults
	Reboot Are you sure you want to reboot the unit	1?	
	Yes No		

The CP2-IP-00 module can be rebooted from the web interface System page. The 'Reboot' button is located in the top right corner of the System Control Panel.

To perform a reboot, click the reboot button. The system will prompt the user to confirm the reboot request. Once confirmed, a status window with a progress bar will open be visible until the reboot is complete and the login window displayed.

Reset to Defaults

System Control Panel Profiles SNMP MIBs Diagnostics Security		Update Unit 🕼 Reboot 🔗 Reset to Defaults
	Reset to Defaults Are you sure you want to reset to defaults This will: Restore all settings to defaults. Clear the event log. Reboot the unit. Yes No	⊗

The CP2-IP-00 module settings can be reset to factory defaults. All settings will be returned to the factory defaults **except** the network management ports TCP/IP settings. All event logs will be cleared. To reset all settings to default, click the Reset to Defaults button on the System page. The module will prompt the user to confirm the reset.

Configuring the Unit Networks and VLANs

The CP2-IP-00 module can be assigned a Hostname and DNS servers. To access this menu, click on the Configure Networks gear icon. Within the window that opens, the user can assign a Hostname to the module, define which physical port (Eth0, Eth1, Eth2, Internal) the Default Gateway will use [The web-interface is accessible from the IP address of either Ethernet port; however, be sure to configure the two ports for separate subnets.], and provide addresses for Primary and Secondary Nameservers.

Metwork	Configure Networks							۵
Configure Networks Hostname:	Hostname:	(none)		.7		Config	ure Network	Services
Name	Default Gateway:	eth0	*	ау	MAC	Link Status	Tx Rate	Rx Rate
🖉 eth0	Primary Nameserver:	10.100.20.7		(A0:69:86:04:7C:26	N/A (Down)	0.000	0.000
🖉 eth1	Secondary Nameserver:	10.100.20.10		{	A0:69:86:04:7C:27	N/A (Down)	0.000	0.000
Ø eth2					A0:69:86:04:7C:28	N/A (Down)	0.000	0.000
Internal (eth3)		Apply C	ancel	8.1.254	A0:69:86:04:7C:29	1Gbps (Up)	0.000	0.000

Setting	Available Selections	Descriptions
Hostname	Alphanumeric, no spaces allowed	Defines optional system name
Default Gateway	Eth0, Eth1, Eth2, Internal	Defines which physical port gateway address is to be used
Primary Nameserver	XXX.XXX.XXX.XXX	IP address of Primary (DNS) nameserver
Secondary Nameserver	XXX.XXX.XXX.XXX	IP address of Secondary (DNS) nameserver

Management and Video/IP Ports

Each of the three physical NICs and one internal NIC are identical in every way; either one can be configured for the management or Video/IP networks. As shown below, clicking the gear icon will open the settings for each NIC, including the name of the port, IP address and VLAN options. After finishing changes, click the apply button.

System Control Panel										
Profiles SNMP MIBs 🗗 Diagnos	ion Coourity					Lindata U		Reboot 🔧	Reset to Defa	ults
Name	Configure eth)					atus	Tx Rate	Rx Rate	
eth0	Interface Name	e: eth0					own)	0.000	0.000	
🖉 eth1	Mode:	Static		Ŧ			own)	0.000	0.000	
@ eth2	Static Settin	gs					own)	0.000	0.000	
Internal (eth3)	IP Address:	192.1	168.1.206				(Up)	0.000	0.000	
Jicense Information	Subnet Masl	c 255.2	255.255.0						0	
Apply License Key	Gateway:	192.1	168.1.254				Agree	ment Expiration:	2022-06-06	
Option	Add VLAN					Remove All	rted	State	Instances	
CP-IP-00000 - Base Platform	VLAN	VLAN ID	IP Address	Subnet	Gateway	Remove		Licensed	1	
CP-IP-00030 - SRT Protocol License, per					-			Licensed	1	
CP-IP-00040 - Zixi Protocol License, per								Licensed	1	
CP-IP-00050 - RIST Protocol License, pe								Licensed	1	
CP-IP-00020 - HLS Protocol License, per								Licensed	1	
CP-IP-00001 - Gateways Number								Licensed	250	
										-
					Аррі	Cancel				

Setting	Available Selections	Descriptions
Interface Name	User Entered (eth0/eth1/eth2/Internal)	User defined port names
Mode	DHCP, Static	DHCP allows network server to provide IP address Static requires the user to define the IP address to be used
IP Address	xxx.xxx.xxx.xxx	Static mode IP address entry
Subnet Mask	xxx.xxx.xxx	Static Mode subnet mask entry
Gateway	xxx.xxx.xxx.xxx	Static Mode gateway entry

To add a VLAN to the NIC, click the Add VLAN icon to bring up the "Add VLAN" menu as shown on the next page.

VLAN 1
1 \$
192.168.1.1
255.255.255.0
0.0.0.0
OK Cancel

Setting	Available Selections	Descriptions
VLAN Name	User Entered	User defined VLAN names
VLAN Tag ID	1 - 4094	The VLAN tag to be assigned to
		outgoing streams and filtered for
		incoming streams
IP Address	XXX.XXX.XXX.XXX	Static mode IP address entry
Subnet Mask	XXX.XXX.XXX.XXX	Static Mode subnet mask entry
Gateway	XXX.XXX.XXX.XXX	Static Mode gateway entry

After clicking "OK" to finish configuring the newly created VLAN, it will appear on the VLAN list as seen in the figure below. To remove individual VLANs, click the blue 🔀 icon in the corresponding

row. To remove all created VLANs, click the Remove All button.

Configuring Network Services

Both Physical NICs can have specific features enabled for functionality or disabled for security. To



The "Configure Network Services" menu will then be shown. These are the default settings that allow for web access, ICMP contact through pinging and general stream input and output traffic. To enable or disable further settings, click to check the leftmost box as well as the box corresponding to the physical NIC (eth0, eth1, eth2,eth3) in the row of the intended service.

Configu	ure Network Se	rvices					
	Service 🕇	Protocol	Port	eth0	eth1	eth2	eth3
	HTTP	TCP	80	\checkmark	2		
Image: A start and a start	ICMP	ICMP	N/A	\checkmark	Z		\checkmark
	SNMP	UDP	161				
	SNMP Traps	UDP	162				
\checkmark	SSH	TCP	22	\checkmark			\checkmark
	Stream I/O	N/A	N/A	\checkmark			\checkmark
	Syslog	UDP	514				
					A	pply	Cancel

Service	Protocol	Port	Descriptions
HTTP	ТСР	80	Allows access to the web interface via browser
ICMP	ICMP	N/A	Allows access to ICMP responses (such as pinging)
SNMP	UDP	161	Allows SNMP GET/SET commands
SNMP Traps	UDP	162	Enables SNMP traps to send upon system change
SSH	ТСР	22	Allows for SSH access through port 22
Stream I/O	Unknown	N/A	Enables and disables all stream traffic for the physical interface (Zixi, MPEG/IP, SRT, HLS)
Syslog	UDP	514	Allows configuration of a syslog server for state triggered messages.

License Information

Certain features of the CP2-IP-00 require licenses in order to be functional. The interface displays all licenses available as well as the following status:

- License Locked or Unlocked
- License is Supported or Unsupported by the installed hardware

If licenses need to be applied to the module, click Apply License Key button. The menu below will appear where the user can copy and paste the provided license key from Wellav.

License Information						0
Apply License Key	🕞 Enter License Key		Software	Support Agreer	ment Expiration:	2022-04-27
Option	Enter a new license key here			Supported	State	Instances
CP2-IP-00000 - Base Platform				Yes	Licensed	1
CP2-IP-00030 - SRT Protocol License, per unit				Yes	Licensed	1
CP2-IP-00040 - Zixi Protocol License, per unit				Yes	Licensed	1
CP2-IP-00050 - RIST Protocol License, per unit				Yes	Licensed	1
CP2-IP-00020 - HLS Protocol License, per unit				Yes	Licensed	1
CP2-IP-00001 - Gateways Number				Yes	Licensed	250
		Apply Cancel				

5.4.6 CP-IP-02

CP-IP-02 is a Gigabit IP multiplexing processing module, with 2 RJ45 Gigabit port, support UDP/RTP protocol, the single port maximum support 120 channels input and 120 channels output



Click the *IP Input* in the menu to go into IP input page where you can see *Status, Basic Setting, IGMP Setting* and *Service Configuration*.

CP-IP-02				I	output System Setting
				Status Basic Setting IGM	Setting Service Configuration
					Port 1 Port 2
Channel	IP Address : Port	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
1.1	227.30.30.1 : 10001	3.726	3.726	۲	III ^
1.2	227.30.30.2 : 10002	3.726	3.726	۲	
1.3	227.30.30.3 : 10003	3.716	3.716	۲	=
1.4	227.30.30.4 : 10004	3.716	3.716	۲	III
1.5	227.30.30.5 : 10005	3.716	3.716	۲	
1.6	227.30.30.6 : 10006	3.716	3.716	۲	III
1.7	227.30.30.7 : 10007	3.716	3.716	۲	
1.8	227.30.30.8 : 10008	3.716	3.716	۲	I
1.9	227.30.30.9 : 10009	3.716	3.716	۲	
1.10	227.30.30.10 : 10010	3.716	3.716	۲	
1.11	227 30 30 11 - 10011	3 716	3 716	.	:= *

IP Input >Status

In this page, you can check info of each channel: Total Bit Rate, Effect Bit Rate, TS Analysis and Service List.

-02				Inp	ut Output System Setting
				Status Basic Setting IGMP S	Setting Service Configuration
					Port 1 Port 2
Channel	IP Address : Port	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
1.1	227.30.30.1 : 10001	3.726	3.726	۲	
1.2	227.30.30.2 : 10002	3.726	3.726	•	
1.3	227.30.30.3 : 10003	3.716	3.716	۲	i =
1.4	227.30.30.4 : 10004	3.716	3.716	۲	
1.5	227.30.30.5 : 10005	3.716	3.716	۲	
1.6	227.30.30.6 : 10006	3.716	3.716	۲	
1.7	227.30.30.7 : 10007	3.716	3.716	۲	
1.8	227.30.30.8 : 10008	3.716	3.716	۲	
1.9	227.30.30.9 : 10009	3.716	3.716	۲	
1.10	227.30.30.10 : 10010	3.716	3.716	۲	
1.11	227 30 30 11 - 10011	3.716	3 716	0	

Click the icon () in the **TS Analysis** list to see the TS analyzing result of each channel. Click the

icon (\blacksquare) in the **Service List** to see the Services of each channel.

• TS Analysis

Click *Reset Counter* to clear continuity count errors and restart counting. Fill in the search bar with key words of PID / Bit rate / bandwidth / table type / service name to get info you want.

				Search	
PID	Bit Rate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
0×0(0)	0.001	0.085	0	PAT	
0x11(17)	0.001	0.085	0	SDT	
0x102(258)	0.001	0.085	0	Other	
0x103(259)	0.001	0.085	0	Other	
0x201(513)	0.269	22.816	0	Other	
0x202(514)	0.242	20.526	0	Other	
0x294(660)	0.021	1.781	0	Other	
0x29e(670)	0.021	1.781	0	Other	

• Service List

Click a service name to check its detailed info.

		[302] CCTV 2	
	Туре	PID	Bit Rate(Mbps)
Obernal + 1.1	PCR	8190	0.044
Channel : 1.1	PMT	258	0.018
# Camilao	Video(MPEG2)	513	4.899
# Service	Audio	660	0.256
1 [302] CCTV 2		Close	
		0.000	

IP Input >Basic Settings

Here you can configure IP input parameters: *Destination IP Address*, *Destination Port, Protocol* (UDP/RTP),and *TS Packets Per IP Packet*. Click *Apply* to make the setting take effect.

								Input O	utput Sys	tem Sett
						Status	Basic Setting	IGMP Setting	Service Co	onfigurat
	_								Port	1 Por
ch Setting.4	`									
Select Al	1		Start Channel-End Chan	nel 1	- 128					
🗆 Enable	9	Disable 💌	Destination IP Addres	s 227.10.	20.80 Same	-				C
Protoc	ol	UDP 👻	Destination Port	1234	Same	-				App
			Pkt Length Batch Setting	7	*					
< 1 2	2 3 4	5 6 7 8 >	Pkt Length Batch Setting	7	*					
< 1 2 Channel	3 4 Enable	5 6 7 8 > Destination IP Addr	Pkt Length Batch Setting ess Destina	7 ation Port	Protocol		F	Pkt Length		
< 1 2 Channel 1.1	2 3 4 Enable	5 6 7 8 > Destination IP Addr 227.30.30.1	Pkt Length Batch Setting ess Destina 10001	7 ation Port	Protocol		F Auto	Pkt Length		
< 1 2 Channel 1.1 1.2	2 3 4 Enable	5 6 7 8 > Destination IP Addr 227.30.30.1 227.30.30.2	Pkt Length Batch Setting ess Destina 10001 10002	ation Port	Protocol UDP UDP		r Auto	Pkt Length		
< 1 2 Channel 1.1 1.2 1.3	2 3 4 Enable C C	5 6 7 8 > Destination IP Addr 227.30.30.1 227.30.30.2 227.30.30.3	Pkt Length Batch Setting ess Destin: 10001 10002 10003	ation Port	Protocol UDP UDP		Auto Auto Auto	Pkt Length	V	
< 1 2 Channel 1.1 1.2 1.3 1.4	2 3 4 Enable C C C	5 6 7 8 ≥ Destination IP Addr 227.30.30.1 227.30.30.2 227.30.30.3 227.30.30.4	Pkt Length Batch Setting ess Destin 10001 10002 10003 10004	ation Port	Protocol UDP UDP UDP UDP		 Auto Auto Auto Auto Auto 	⁹ kt Length		
< 1 2 Channel 1.1 1.2 1.3 1.4 1.5	Enable	5 6 7 8 ≥ Destination IP Addr 227.30.30.1 227.30.30.2 227.30.30.3 227.30.30.4 227.30.30.5	Pkt Length Batch Setting ess Destin 10001 10002 10003 10004 10005	ation Port	Protocol UDP UDP UDP UDP UDP	· · · · · · · · · · · · · · · · · · ·	Auto Auto Auto Auto Auto Auto	Pkt Length	• • •	
< 1 2 Channel 1.1 1.2 1.3 1.4 1.5 1.6	2 3 4 Enable 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5 6 7 8 > Destination IP Addr 227 30 30 1 227 30 30 2 227 30 30 3 227 30 30 4 227 30 30 5 227 30 30 6	Pkt Length Batch Setting ess Desting 10001 10002 10004 10005 10006	ation Port	Protocol UDP UDP UDP UDP UDP UDP UDP		Auto Auto Auto Auto Auto Auto Auto	Pkt Length	• • •	

If you want to configure a batch of channels, please click Batch Setting

To set the IP input parameters in batch, you can check the boxes before parameters you need then choose / modify the values.. Click *Apply* to make the setting take effect.

01 -11 -02						Input Output	System Setti
				Status	Basic Setting	IGMP Setting Serv	vice Configurati
					_		Port 1 Por
tch Setting.	^						
Select Al	I	Start	Channel-End Channel	1 - 128			
🗌 Enabl	e	Disable 💌 🗆 De	estination IP Address	227.10.20.80 Same 🔻			
Proto	col		estination Port	1234 Same 🔻			Apply
		D Pk	rt Length	7 -			
			Batch Setting				
< 1 2 Channel	2 3 4 Enable	5 6 7 8 > Destination IP Address	Batch Setting Destination Port	Protocol		Pkt Lenath	
< 1 2 Channel	2 3 4 Enable	5 6 7 8 > Destination IP Address 227.30.30.1	Batch Setting Destination Port 10001	Protocol	▼ Auto	Pkt Length	
< 1 2 Channel 1.1 1.2	2 3 4 Enable	5 6 7 8 > Destination IP Address 227.30.30.1 227.30.30.2	Destination Port	Protocol UDP UDP	Auto Auto	Pkt Length	
< 1 2 Channel 1.1 1.2 1.3	2 3 4 Enable 2 2	5 6 7 8 > Destination IP Address 227.30.30.1 227.30.30.2 227.30.30.3	Destination Port 10001 10002 10003	Protocol UDP UDP	Auto Auto Auto Auto	Pkt Length	
< 1 2 Channel 1.1 1.2 1.3 1.4	2 3 4 Enable C C C	5 6 7 8 > Destination IP Address 227.30.30.1 227.30.30.2 227.30.30.3 227.30.30.4	Destination Port 10001 10002 10003 10004	Protocol UDP UDP UDP UDP	Auto Auto Auto Auto Auto Auto Auto	Pkt Length	
< 1 2 Channel 1.1 1.2 1.3 1.4 1.5	2 3 4 Enable C C C C	5 6 7 8 > Destination IP Address 227.30.30.1 227.30.30.2 227.30.30.4 227.30.30.5	Destination Port 10001 10003 10004 10005	Protocol UDP UDP UDP UDP	Auto Auto Auto Auto Auto Auto Auto Auto	Pkt Length	
< 1 2 Channel 1.1 1.2 1.3 1.4 1.5 1.6	2 3 4 Enable 2 2 2 3 4 2	5 6 7 8 ≥ Destination IP Address 227.30.30.1 227.30.30.2 227.30.30.4 227.30.30.5 227.30.30.6	Destination Port 10001 10002 10004 10005 10006	Protocol UDP	 Auto Auto Auto Auto Auto Auto Auto Auto Auto 	Pkt Length	

IP Input >IGMP Setting

In this tab, user can choose IGMP version, IGMP Automatic Report, and IGMP Report Cycle(s).

CP-IP-02						Input O	utput System Setting
				Status	Basic Setting	IGMP Setting	Service Configuration
	IGMP Version:	V2	-				
	IGMP Automatic Report:	Enable	•				
	IGMP Report Cycle(s):	15					Annh
							Apply

IP Input >Service Configuration

To stream a source stream, you can configure the destination in this page.

CP-IP-02			Input Output System Settin
			Status Basic Setting IGMP Setting Service Configuration
			Port 1 Port 2
Channel Select : Channel 1.1	Scanning Time(ms) : 1000	Program Scan	
Service Name		Destination	Destination Setting Apply
Channel 1.1	+	3.CP-IP-02[1.1]	¢ ^
[713] Bloomberg European TV			/ Clear
PID 1 (CAT)			Config
Channel 1.2	+	3.CP-IP-02[1.2]	۵
[713] Bloomberg European TV			1
PID 1 (CAT)			1
Channel 1.3	+	3.CP-IP-02[1.3]	۵
[713] Bloomberg European TV			1
PID 1 (CAT)			1
Channel 1.4	+	3.CP-IP-02[1.4]	۵
[713] Bloomberg European TV			1
PID 1 (CAT)			1
Channel 1.5	1	3 CD ID 02(4 5)	ŏ

- Multiplex or Bypass stream: Click the setting icon (*), check the output module, and then you can set the output channel of this stream. After you select bypass mode, this output channel will be occupied only by this stream.
- Multiplex services: You should click the service line setting icon () to make the certain service output from certain channel combining with other services. The operation you can refer to multiplex stream output.

	Channel 1.1		
11.CM-DTMB-00	Channel1	Multiplex	Bypass
✓ 14.CM-QAM-00	Channel2	✓ Multiplex	Bypass
	Channel3	Multiplex	🖉 Bypass
	Channel4	Multiplex	Bypass
	Channel5	Multiplex	Bypass
	Channel6	Multiplex	Bypass
	Channel7	Multiplex	Bypass
	Channel8	Multiplex	Bypass
	Channel9	Multiplex	Bypass
	Channel10	Multiplex	Bypass
	Channel11	Multiplex	Bypass
	Channel12	Multiplex	Bypass
	Channel13	Multiplex	Bypass

After setting the output destination, click *Apply* to make it take effect. The destination channel will be displayed in the channel/service line. And you can also click *Clear Configuration* to clear all of the configuration.

There is a channel scan button (^{Channel Scan}) on top. Normally the input service list of each channel will load itself on this page, but when you change the input source, the list could not refresh immediately. You can refresh the changed channels manually by selecting the channel and clicking the channel scan button.

IP Output >Status

The IP output status information you can check on this page is similar to that of IP input. The TS analysis and service list function are also available.

CP-IP-02								Input	itput System	m Setting
							Status	Basic Setting	Service Con	figuratio
									Port 1	Port
Channel	IP Address : Port	Effective Bitrate(Mb	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List				
1.1	227.20.1.1 : 1234	3.747	5.000	Normal	۲		*			
1.2	227.20.1.2 : 1234	3.747	5.000	Normal	3					
1.3	227.20.1.3 : 1234	3.747	5.000	Normal	۲					
1.4	227.20.1.4 : 1234	3.737	5.000	Normal	•					
1.5	227.20.1.5 : 1234	3.747	5.000	Normal	•					
1.6	227.20.1.6 : 1234	3.747	5.000	Normal	۲					
1.7	227.20.1.7 : 1234	3.758	5.000	Normal	•					
1.8	227.20.1.8 : 1234	3.758	5.000	Normal	۲					
1.9	227.20.1.9 : 1234	3.747	5.000	Normal	۲	12				
1.10	227.20.1.10 : 1234	3.737	5.000	Normal	۲					
1.11	227.20.1.11 : 1234	3.747	5.000	Normal	•					
1.12	227.20.1.12 : 1234	3.737	5.000	Normal	۲					
1.13	227.20.1.13 : 1234	3.737	5.000	Normal	۲					
1.14	227.20.1.14 : 1234	3.758	5.000	Normal	۲	I				
1.10	007.00.4.5 400.	0.7.17	5.000				•			

IP Output >Basic Settings

Setting IP output channels is also similar to Setting IP input.

CP-IP-02	2											Input	Sutput	ystem	Setting
											Status	Basic Setting	Service	Config	guration
													Po	rt 1	Port 2
atch Setting	L^														
Select /	All		Start	Channel-End Chan	nel		1	-	128						
🗆 Enat	ble	Disable		estination IP Addres	s		227.10.20.80		Same	*				1	
🗌 Sour	Source Port		🗆 De	Destination Port			1234		Same	*					Apply
Prote			- PP	t Length			7	٣							
				Batch Setting											
Interval:	100	(ms)	,												
< 1	2 3 4	5 6 7	8 >												
Channel	Enable	Source Port	Destination IP Ad	Destination Port	Proto	col	Pkt Length	Bitr	ate(Enable De	stination MAC	Destination	MAC		
1.1		1000	227.20.1.1	1234	UDP	•	7 🔹	5		Disable		01:00:5E:14:01	:01		
1.2		1000	227.20.1.2	1234	UDP	•	7 🔹	5		Disable		01:00:5E:14:01	:02		
1.3		1000	227.20.1.3	1234	UDP	•	7 🗸	5		Disable	-	01:00:5E:14:01	:03		

- Multicast output setting: You should fill the fit multicast IP addresses as output in the Destination IP Address box. Please avoid IP confliction among baseboard, encoder modules (see encoder modules page) and other devices when you set the multicast output.
- Unicast output setting: You should fill the unicast receiving end's IP addresses in the Destination IP Address box.
- Destination MAC: Normally you do not need to enable the Destination MAC switch. Only in some specific case where the unicast stream cannot be received due to unknown reasons, you

should enable Destination MAC and fill in the correct receiver MAC in instead of using unicast IP addresses.

Constant Rate of any output channel/TS/port ought to be set manually about 2 Mbps higher than the **Effective Bit rate** in the corresponding output channel/TS/port, since the **Effective Bit rate** might fluctuates a little bit. If you set the **Constant Rate** much higher that the **Effective Bit rate**, there will be lots of null packets in the output transport stream.

If you want to configure a batch of channels, please click *Batch Setting*. Batch Setting of IP output channels is also similar to that of IP input.

	ut								St	atus Basic Set	tting Service Configura	atio
atch Settin	<u>g_</u> ^											
Select Al	1			Start C	hannel-	End	Channel	1		- 120		
Enabl	е	Disable	-	🗆 Des	tination	IP A	ddress	227.10.	20.80	Same	¥	
Source	e Port	1000		🗆 Des	tination	Port		1234		Same	*	
Proto	col	UDP	-	🗌 Pkt	Length			7	-			
Bitrate	э	25	(Mbps)	🗆 Ena	ble Dest	inati	on MAC	Disable	*	AA:BB:CC:DD:EE	FF	
K Interval:	100	(1	ns)									
Interval:	100	4 5 6 7	ns)			2						
(Interval:	100 2 3 Enable	4 5 6 7 Source Port	ns) 8 > Destination IP A	Destination	Protoc	col	Pkt Length	Bitrate(Enable D	estination MAC	Destination MAC	
Channel	100 2 3 Enable	(1 4 5 6 7 Source Port 1000	ns) 8 ≥ Destination IP A 239.168.10.20	Destination	Protoc	col	Pkt Length	Bitrate(Enable De Disable	estination MAC	Destination MAC 01:00:5E 28:0A:14	
K Interval: Channel 1.1 1.2	100 2 3 Enable 2 2	(1 4 5 6 7 Source Port 1000	ns) 8 > Destination IP A 239.168.10.20 239.168.10.30	Destination 10000	Protoc UDP UDP	col •	Pkt Length 7 7 7	Bitrate(15 15	Enable De Disable Disable	estination MAC	Destination MAC 01:00:5E 28:0A:14 01:00:5E 28:0A:1E	
Channel 1.1 1.2 1.3	100 2 3 Enable 2 2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	(1 4 5 6 7 Source Port 1000 1000	ns)	Destination 10000 10000 1234	Protoc UDP UDP UDP	col • •	Pkt Length 7 ▼ 7 ▼ 7 ▼	Bitrate(15 15 15	Enable Do Disable Disable Disable	estination MAC	Destination MAC 01:00:5E:28:0A:14 01:00:5E:28:0A:1E 00:00:00:00:00	
K Interval: Channel 1.1 1.2 1.3 1.4	100 2 3 Enable 2 0	4 5 6 7 Source Port 1000 1000 1000	ns)	Destination 10000 1234 1234	Protoc UDP UDP UDP UDP	col • •	Pkt Length 7 • 7 • 7 • 7 •	Bitrate(15 15 15 15	Enable De Disable Disable Disable Disable	estination MAC	Destination MAC 01:00:5E:28:0A:14 01:00:5E:28:0A:1E 00:00:00:00:00:00 00:00:00:00:00	

IP Output >Service Configuration

You can make configuration for output services and TS.

CP-IP-02		Input Output	System
		Status Basic Setting Serv	ice Config
		Port 1 Port 2	
Click "Apply" after modifying your parame	eters to save the configuration.	×	
[1.1] TS	* ^ Î	[1.1] TS	
1. Bloomberg European TV	311	Original Network ID 1337	C
[12]TS	t A	TS ID 30	
1. Bloomberg European TV	3.1.2		
		NO. Service ID Service Name Service Provider	
[1.3] TS	¢ ^	1 713 Bloomberg European TV Arqiva	
1. Bloomberg European TV	3.1.3		
[1.4] TS	* ^	Other PIDs	
1. Bloomberg European TV	3.1.4	1	
		OK Cancel	
[1.5] TS	¢ ^		
1. Bloomberg European TV	3.1.5		
[1.6] TS	* ^		

- TS setting: Click TS line (the blue area) to configure Original Network ID, TS ID and each Service ID, Service Name, and Service Provider.
- > NIT setting: Please refer to CM-QAM-00 module.

5.5 Transcode Modules

5.5.1 CX-TXS-00

CX-TXS-00 is a transcoder module that supports transcoding between different video compression standards such as H.265, H.264 and MPEG-2. The module has 2 GbE ports, 2 USB ports and 1 HDMI port. The GbE ports will be used for IP stream input and output while USB port and HDMI port will be used for OS installation.

With this transcoder module, you're able to output programs with desired codec to adapt to various decoder terminals and/or further transmission.



CX-TXS-00 >Status

Status allows the user to have an overview about the details of current status and media info of input and output. User could drag the bar below to see more info.

CX2-T	KS-00					Status Input	Engine Systen	n Alarm Abou	ut
🗘 Advanc	ed Setting	>							
			Ir	nput				*	
Engine	Status	Run Time	Input Source	Service	View	Output URL	Preview	Encoding Format	-
1	•	0:0:0:27	UDP://239.192.10.201:10000:Data 2	[1]	۲	UDP://239.168.0.10:6001		MPEG-2	•
2	•	0:0:0:0	UDP://0.0.0.0:5001:Internal	[1] NONE	۲	UDP://0.0.0.0:6002		MPEG-2	
3	•	0:0:0:0	UDP://0.0.0.0:5001:Internal	[1] NONE	۲	UDP://0.0.0.0:6003		MPEG-2	
4	•	0:0:0:0	UDP://0.0.0.0:5001:Internal	[1] NONE	۲	UDP://0.0.0.0:6004		MPEG-2	
5	•	0:0:0:0	UDP://0.0.0.5001:Internal	[1] NONE	۲	UDP://0.0.0.0:6005		MPEG-2	
6	•	0:0:0:0	UDP://0.0.0.5001:Internal	[1] NONE	۲	UDP://0.0.0.0:6006		MPEG-2	
7	•	0:0:0:0	UDP://0.0.0.0:5001:Internal	[1] NONE	۲	UDP://0.0.0.0:6007		MPEG-2	
8	•	0:0:0:0	UDP://0.0.0.5001:Internal	[1] NONE	۲	UDP://0.0.0.0:6008		MPEG-2	

CX2-TXS-0	0					Status Input	Engine System	Alarm About	ıt
Advanced Se	tting >								
				Outpu	t				*
View	Output URL	Preview	Encoding Format	Resolution	Frame Rate	Total Bitrate(Mbps)	Video Bitrate(Mbps)	Audio1 Codec	Ŧ
۲	UDP://239.168.0.10:6001		MPEG-2	1920 x 1080	Auto	8.80(Mbps)	8.00(Mbps)	MPEG1/L2	*
۲	UDP://0.0.0.0:6002		MPEG-2	1920 x 1080	Auto	8.80(Mbps)	8.00(Mbps)	MPEG1/L2	
۲	UDP://0.0.0.0:6003		MPEG-2	1920 x 1080	Auto	8.80(Mbps)	8.00(Mbps)	MPEG1/L2	
۲	UDP://0.0.0.0:6004		MPEG-2	1920 x 1080	Auto	8.80(Mbps)	8.00(Mbps)	MPEG1/L2	
۲	UDP://0.0.0.0:6005		MPEG-2	1920 x 1080	Auto	8.80(Mbps)	8.00(Mbps)	MPEG1/L2	
۲	UDP://0.0.0.0:6006		MPEG-2	1920 x 1080	Auto	8.80(Mbps)	8.00(Mbps)	MPEG1/L2	
۲	UDP://0.0.0.0:6007		MPEG-2	1920 x 1080	Auto	8.80(Mbps)	8.00(Mbps)	MPEG1/L2	
۲	UDP://0.0.0.0:6008		MPEG-2	1920 x 1080	Auto	8.80(Mbps)	8.00(Mbps)	MPEG1/L2	

- Engine: Show channel number. The amount of input channels is controlled by license.
- **Status**: Show channel status. When channel is on, it will show green light. Otherwise, it will show red light.
- Input Source: Show channel input protocol, address and port, and input Ethernet.
- Service: Show which channel is being transcoding.
- View: Click
 to see detailed info of selected input channel
- Output URL: Show output protocol, address and port number.
- **Preview:** Preview transcoding effect by moving the cursor over them.
- Encoding format: Show output encoding format.
- **Resolution**: Show output video resolution.
- Frame rate: Show output video frame rate.
- **Total bitrate**: Show total output ts bitrate.
- Video bitrate: Show output video bitrate.
- Audio bitrate: Show output audio bitrate.
- Run time: Display how long the transcoding has been run.

User could also click the **Advanced Setting** on Status and users could select more/less parameters they want to display on Status.

CX2-TXS-00			Status	Input	Engine	System	Alarm	About
Advanced Setting V								
Video Parameter 🗌								
Encoding Format	Resolution	Frame Rate		🗹 Tot	al Bitrate			
✓Video Bitrate	□Video Quality							
Audio Parameter 🗌								
✓Audio1 Codec	☐Audio2 Codec	Audio3 Codec		□Au	dio4 Codec			
Audio1 Bitrate	Audio2 Bitrate	Audio3 Bitrate		Au	dio4 Bitrate			
Audio1 Sample Rate	Audio2 Sample Rate	Audio3 Sample Rate		□Au	dio4 Sample	Rate		

CX-TXS-00 >Input

This menu allows the user to configure the source input including UDP and RTP protocols. Based upon the type of protocol the user selects, the available configuration settings will adapt to provide the best fit.

Three settings that are common to all protocols are "Enable", when user click the blank box would enable the channel; "Network Port", which can be set to DATA1, DATA2 and Internal (CMP baseboard IP input) and "VLAN", which will filter incoming streams for VLAN tags. If user select "Internal", the module would use the CMP baseboard data port while user need to type the same IP address that use at IP input.

After finishing the configuration for all the parameters, click to make the configuration take effect.

CX2-	X2-TXS-00 Status												Engine	System	Alarm About
Engine	Status	Enable	Network Por	t	Protoc	ol	IP Address	Port	VLAN	VLAN ID	Action				
1	•		Data 1	•	UDP	•	239.192.10.201	10000	Disable	None 🔻	۲				
2	•		Internal	•	UDP	•	0.0.0.0	5002	Disable	None 🔻	۲				Apply
3	•		Internal	•	UDP	•	0.0.0.0	5003	Disable	None 🔻	۲				
4	•		Internal	•	UDP	•	0.0.0.0	5004	Disable	None 🔻	۲				
5	•		Internal	•	UDP	•	0.0.0.0	5005	Disable	None 🔻	۲				
6	•		Internal	•	UDP	•	0.0.0.0	5006	Disable	None 🔻	۲				
7	•		Internal	•	UDP	•	0.0.0.0	5007	Disable	None 🔻	۲				
8	•		Internal	•	UDP	•	0.0.0.0	5008	Disable	None 🔻	۲				
9	•		Internal	•	UDP	•	0.0.0.0	5009	Disable	None 🔻	۲				
10	•		Internal	•	UDP	•	0.0.0.0	5010	Disable	None 🔻	۲				

Settings	Range	Description
Input	After finish settings of that input channel, check the box under	A green indicator beside means receive source successfully while a red indicator means failed.
Network Interface	DATA1 DATA2 Internal	Select right Ethernet which the stream feeds into. The Internal input is fed by CMP baseboard Data port.
Protocol	UDP RTP	Check the "IP address" and enter Ethernet IP address which the source comes from.

CX-TXS-00 > Engine

After finishing configure the Input, user need to enter the Engine page to configure the transcoded parameters. This menu allows user to configure parameters of transcoded outputs.

Click the box at "Select Service" and select active input stream from drop-down list. User could

configure the transcoding output parameters at the box for the relevant channel. click to make the configuration take effect.

CX2-T	KS-00						Status Input E	ingine System	ŀ
🗘 Advanc	ed Setting	>							
Channel	Enable	Select Service	Network Port	Protocol	IP Address	Port	Total Bitrate(Mbps)	Encoding Format	
1		IP1[239.192.10.201:10000][1:LipSyne	Data 1 🔹	UDP 🔻	239.192.0.199	10000	8.80	MPEG-2	[*
2		None IP1[239.192.10.201:10000][1:LipSync_1	1080i] mal 🔹	UDP 🔻	0.0.0.0	6002	8.80	MPEG-2	•
3		None	Internal	UDP 🔻	0.0.0.0	6003	8.80	MPEG-2 🔻	6
4		None 💌	Internal	UDP 🔻	0.0.0.0	6004	8.80	MPEG-2	6
5		None 💌	Internal	UDP 🔻	0.0.0.0	6005	8.80	MPEG-2 🔻	1
6		None	Internal 👻	UDP 👻	0.0.0.0	6006	8.80	MPEG-2 -	6
7		None	Internal 💌	UDP 🔻	0.0.0.0	6007	8.80	MPEG-2 🔻	6
8		None	Internal -	UDP -	0.0.0.0	6008	8.80	MPEG-2 -	6
9		None	Internal	UDP 🔻	0.0.0.0	6009	8.80	MPEG-2	6
10		None	Internal 💌	UDP 👻	0.0.0.0	6010	8.80	MPEG-2 -	G_

Move the bar below to change the transcode output parameters.

0/12 1/10-00						Stat	us input Eng	ine System	Alarm
Advanced Sett	ing >								
					Output			4	
Protocol	IP Address	Port	Total Bitrate(Mbps)	Encoding Format	Video Bitrate(Mbps)	Resolution	Frame Rate	Data Table Standard	
UDP 🔻	239.192.0.199	10000	11.00	MPEG-2 🔻	10.00	1920 x 1080 🔻	Auto 💌	ATSC •	•
JDP 🔻	0.0.0.0	6002	8.80	MPEG-2 -	8.00	1920 x 1080 ▼	Auto 💌	ATSC -	
JDP 🔻	0.0.0.0	6003	8.80	MPEG-2 🔻	8.00	1920 x 1080 🔻	Auto 💌	ATSC -	
JDP 🔻	0.0.0.0	6004	8.80	MPEG-2 🔻	8.00	1920 x 1080 👻	Auto 💌	ATSC -	
JDP 🔻	0.0.0.0	6005	8.80	MPEG-2 🔻	8.00	1920 x 1080 🔻	Auto 💌	ATSC	
JDP 🔻	0.0.0.0	6006	8.80	MPEG-2	8.00	1920 x 1080 🔻	Auto 💌	ATSC -	
JDP 🔻	0.0.0.0	6007	8.80	MPEG-2 -	8.00	1920 x 1080 🔹	Auto 💌	ATSC	
JDP 🔻	0.0.0.0	6008	8.80	MPEG-2 -	8.00	1920 x 1080 🔹	Auto 💌	ATSC	
JDP 🔻	0.0.0.0	6009	8.80	MPEG-2 -	8.00	1920 x 1080 🔻	Auto 💌	ATSC	
JDP 🔻	0.0.0.0	6010	8 80	MPEG-2	8.00	1920 x 1080 -	Auto 🔻	ATSC	

User could click Advanced Setting for more parameters to configure. User could click the box to add the feature inside the engine setting. If user click the box near the "Video/audio/Subtitle Parameter", it would select all the features and add into the engine setting.

CX2-TXS-00			Status Input	Engine System	Alarm About
Advanced Setting V					
Video Parameter 🗌					Apply
✓ Total Bitrate	Encoding Format	✓Video Bitrate	Resolution	Frame Rate	
Video Quality	✓Data Table Standard	✓Data Table Mode	Closed Caption		
Audio Parameter					
Audio1 Codec	Audio2 Codec	Audio3 Codec	Audio4 Codec		
Audio1 Bitrate	Audio2 Bitrate	Audio3 Bitrate	Audio4 Bitrate		
✓Audio1 Sample Rate	Audio2 Sample Rate	Audio3 Sample Rate	Audio4 Sample Rate		
✓Audio1 Language	Audio2 Language	Audio3 Language	Audio4 Language	Volume Offset	
Subtitle Parameter					
Subtitle1 Codec	Subtitle2 Codec	Subtitle3 Codec	Subtitle4 Codec		
Subtitle1 Input ID	Subtitle2 Input ID	Subtitle3 Input ID	Subtitle4 Input ID		

Transcode

Transport protocol

CX-TXS-00 supports transport with the following protocols: UDP, RTP, RTP with SDP.

1. UDP

Settings	Range	Description
Destination address	Multicast: 224.0.0.0	
	~239.255.255.255	
	Unicast: terminal IP	
	address	
Destination port	1~65535	
Total Bitrate	0 – 30000Kbps	Need to be higher than the video bitrate

2. RTP

Settings	Range	Description
Destination address	Multicast: 224.0.0.0	
	~239.255.255.255	
	Unicast: terminal IP	
	address	
Destination port	1~65535	
Total Bitrate	0 – 30000Kbps	Need to be higher than the video bitrate

Video setting

Below the capture shows the parameters that the user could configure transcoding parameters for video output. Different transport protocol will have different config parameters.

Output								
Total Bitrate(Mbps)	Encoding Format	Video Bitrate(Mbps)	Resolution	Frame Rate	Data Table Standard	Data Table Mode	Closed Caption	
11.00	MPEG-2 🔻	10.00	1920 x 1080 🔻	Auto 💌	DVB 🔻	Disable 🔻	Disable 🔻	
8.80	MPEG-2 🔹	8.00	1920 x 1080 🔻	Auto 💌	ATSC -	Disable 💌	Disable •	
8.80	MPEG-2 🔹	8.00	1920 x 1080 🔻	Auto 💌	ATSC -	Disable 🔹	Disable •	
8.80	MPEG-2	8.00	1920 x 1080 🔻	Auto 💌	ATSC -	Disable 🔻	Disable •	
8.80	MPEG-2 🔻	8.00	1920 x 1080 🔻	Auto 💌	ATSC -	Disable 🔹	Disable •	
8.80	MPEG-2 🔹	8.00	1920 x 1080 🔻	Auto 💌	ATSC -	Disable 🔹	Disable	
8.80	MPEG-2 🔹	8.00	1920 x 1080 🔻	Auto 💌	ATSC -	Disable 🔹	Disable 🔻	
8.80	MPEG-2	8.00	1920 x 1080 🔹	Auto	ATSC -	Disable 🔻	Disable •	
8.80	MPEG-2	8.00	1920 x 1080 🔻	Auto 🔻	ATSC -	Disable 🔹	Disable 🔻	
8.80	MPEG-2 🔹	8.00	1920 x 1080 🔻	Auto	ATSC	Disable 🔹	Disable	
4								
Settings	Range	Description						
---------------------	------------------------	--						
Encoding format	MPEG-2							
	H.264							
	H.265(License							
	required)							
Bitrate	0.48-20Mbps	Video bitrate						
Resolution	Auto	When choose "Auto", it would follow the						
	1920 x 1080	original video resolution						
	1280 x 720							
	720 x 576							
	720 x 480							
Frame Rate	Auto	When choose "Auto", it would follow the						
	25p/29.97p/30p/50p/	original video frame rate.						
	59.94p/60p							
	25i/29.97i/30i/50i/59.							
	94i/60i							
Data Table Standard	DVB/ATSC							
Data Table Mode	Disable	User could select if you need to disable,						
	Passthrough	passthrough or generate the table on						
	Generate	CX-TXS-00 which including ATSC,NIT and EIT table						
Closed Caption	Enable	Choose if use the closed caption on the						
	Disable	output						

Audio Setting

This section allows the user to configure transcoding parameters of audio output. Different transport protocol will have different config parameters

Audio1 Codec	Audio1 Bitrate(Kbps)	Audio1 Sample Rate(Khz)	Audio1 Language
MPEG1/L2	96	48 🔻	1
MPEG1/L2	96	48 🔻	1 🔹
MPEG1/L2	96	48 🔻	1
MPEG1/L2 -	96	48 🔻	1 🔹
MPEG1/L2	96	48 🔻	1
MPEG1/L2	96	48 🔻	1 🔹
MPEG1/L2	96	48 🔻	1
MPEG1/L2	96	48 🔻	1 🔹
MPEG1/L2	96	48 🔻	1
MPEG1/L2 -	96	48 🗸	1

Subtitle Setting

Subtitle1 Codec	Subtitle1 Input ID
None	1
None •	1
None •	1
None 🔻	1
None •	1
None 🔻	1
None 👻	1

CX-TXS-00 >System

Network

As shown below, CX-TXS-00 has 2 Data ports and the internal port would be used for data input/output. The Link Status shows if user connect the cable into the Data port. User could change

the IP Address, Subnet Mask and DNS for each Data port. After configuring the parameters, click

Apply button.

Network	IP Address	Subnet Mask	Default Gateway	Primary DNS	Secondary DNS	MAC Address	Link Statu
Data 1	192.168.13.167	255.255.255.0	192.168.13.254	10.100.20.7	10.100.20.10	a0:69:86:06:da:fb	100Mb/
Data 2	192.168.2.211	255.255.255.0	192.168.2.254			a0:69:86:06:da:fc	• 1000M
Internal	192.168.1.13	255.255.255.0	192.168.1.254			a0:69:86:06:da:fd	1000MI

Settings	Range	Description
IP Address	xxx.xxx.xxx	Static mode IP address entry
Subnet Network	xxx.xxx.xxx	Static Mode subnet mask entry
Gateway	xxx.xxx.xxx	Static Mode gateway entry

Vlan

To add a VLAN to the NIC, click the **+**VLAN icon to add the VLAN. After clicking **Save** to finish configuring the newly created VLAN, it will appear on the VLAN list as seen in the figure below. To remove individual VLANs, click the blue icon **Delete** in the corresponding row.

VLAN			
+ VLAN			
Network	VLAN ID	VLAN IP	Operation
Data 1		102 168 1 1	Save Delete
		192.108.1.1	Save Delete

Settings	Available Selections	Description
Network	Data0/Data1/Internal	Add the VLAN to the designated NIC
VLAN ID	1-4094	The VLAN tag to be assigned to outgoing streams and filtered for incoming streams
VLAN IP	xxx.xxx.xxx	Static mode IP address entry

Firmware Version Upgrade

Updates to the CX-TXS-00 are performed through the web interface. A firmware upgrade file is provided by Wellav and then uploaded to the unit. To request the latest firmware version or a copy of the release notes please contact our after-sales technical support team.

Firmware Version Update				
Upgrade			Browse	Upload

Software License

Every CX-TXS-00 modules would have its own Product ID. If user need to renew the license file or add the license feature, please export the license file and send it to Wellav after-sales technical support team.

Software License	
Product ID	f0acf4faa47942e7c4114c9436c6d48b
Import License	Browse Upload
Export License	Export

System Resource

This page shows the current usage for the CPU, Memory and GPU. With different transcode channels, different transcoding parameters and different transcoding configuration, the usages are also different.

System Resource				
CPU Usage	•		5%	
Memory Usage	-		7.78%	
GPU Usage			0%	

Profile

The CX-TXS-00 is able to save all configured settings to multiple profiles. Profiles can be saved locally and saved to external storage to be used on other CX-TXS-00 modules or do a backup for the current module. Profiles can be used to quickly and easily change the configuration of the module to suit different inputs and decoding requirements.

Pro	ofile						
	Profile Name		Date			Operation	
	2023_03_12_15_49_54.sys.im	g	2023-03-12 15:4	9:54	Apply	Download	Delete
						mport Profile	Backup Profile
Ba	ckup New Profile	Backup	Profile	Used to	o create a nev	<i>w</i> profile t	o the profile
				list			
Imp	oort Profile	Import F	Profile	Used to	o import a pro	file to the	module from
				user po	;		
Ар	ply Profile	Apply		Used to	apply a prof	ile selecte	ed from
		, ppi		profile I	ist		
Do	wnload Profile	Downlo	bad	Used to	o download a	profile se	elected from
				the list	to the user po	C	
Del	lete Profile	Delete		Used to	o delete a prot	file from tl	ne profiles list

SNMP

User is allowed to manage CX-TXS-00 system via SNMP MIB file. After finished configuration, click

Apply

SNMP	Password	IP
Read-Only Community	public	default
Read-Write Community	private	default

System Restart

User can reboot system, reset system to defaults and turn off system through Web operation on this section.

Noted: IP addresses will not change when reset system to defaults.

System Restart		
Reboot	Reset to Defaults	

Logs

Generally, the original system logs will be saved for several months until it is covered by new logs if the system is running normally. It recommends the user to save and send current system logs to the technician of Wellav if the system runs abnormally.

There are Real-time logs inside the box which would keep a small part of the latest log. If user need to observe the Real-time logs without exporting the log file, click Clear Log. The unit would keep generating the new logs inside the box.

Logs

2023-03-12 11:57:39 [Alarm] ID:00030002, Description:Channel[1] Source Signal that the input signal is lost, Solution:Check the input signal 2023-03-12 12:00:49 [Alarm] Description:Channel[1] Source recovery 2023-03-12 12:00:49 [Alarm] ID:00040003, Description:Channel[1] Source Signal that the encoding channel is stopped, Solution:Notice 2023-03-12 12:04:01 [Alarm] Description:Channel[1] Source recovery 2023-03-12 12:07:12 [Alarm] Description:Channel[1] Source recovery 2023-03-12 12:07:12 [Alarm] Description:Channel[1] Source recovery 2023-03-12 12:07:12 [Alarm] ID:00040003, Description:Stop Channel[1] Signal that the encoding channel is stopped, Solution:Notice 2023-03-12 12:07:14 [Alarm] ID:00040003, Description:Stop Channel[1] Source Signal that the input signal is lost, Solution:Notice 2023-03-12 12:07:14 [Alarm] ID:00040003, Description:Stop Channel[1] Source Signal that the input signal is lost, Solution:Notice 2023-03-12 12:07:14 [Alarm] ID:00040003, Description:Channel[1] Source Signal that the input signal is lost, Solution:Notice 2023-03-12 12:07:14 [Alarm] ID:00040003, Description:Channel[1] Source Signal that the input signal is lost, Solution:Notice 2023-03-12 12:07:14 [Alarm] ID:00040003, Description:Channel[1] Source Signal that the input signal is lost, Solution:Notice 2023-03-12 12:13:36 [Alarm] ID:00040003, Description:Channel[1] Source Signal that the input signal is lost, Solution:Notice 2023-03-12 12:13:36 [Alarm] ID:00040003, Description:Channel[1] Source Signal that the input signal is lost, Solution:Notice 2023-03-12 12:16:47 [Alarm] ID:00040003, Description:Channel[1] Source Signal that the input signal is lost, Solution:Notice 2023-03-12 12:16:47 [Alarm] ID

CX-TXS-00 >Alarm

This page displays all of the current active alarms being reported by the unit. Click Ignore to conceal alarms.

CX2-TX	KS-00			Status Input Engine Sys	tem Alarm About		
NO.	Location	Alarm Type	Last Changed	Notification	Operation		
1	IPI-0(udp://239.192.10.201:10000:Data 2)pat error.	TS packet pat error	2023/03/12 17:01:02	Please check the input	Ignore		
2	IPI-0(udp://239.192.10.201:10000:Data 2)pat table error.	TS packet pat error 1	2023/03/12 17:01:05	Please check the input	Ignore		

CX-TXS-00 >About

User can check the product ID and fingerprint of the unit, also with firmware version currently installed.

CX2-TXS-00			Status	Input	Engine	System	Alarm	About
	Informa	Information						
	Product ID:	f0acf4faa47942e7c4114c9436c6d48b						
	Firmware Name:	release						
	Firmware Version:	1.5.2						
	Hardware Version:	1.0.0.0						
	Build Version:	10271						
	Release Date:	2023-03-01 23:42:35						
	Hardware Fingerprint:	5d0e1794e40f208e6e762c97ef36b434						

5.6 Decode Module

5.6.1 CD2-SDI-00

CD2-SDI-00 is a 4-channel SDI decoding board with 4-channel HD/SD SDI decoding and output, supporting H.265/H.264/Mpeg-2/AVS2/AVS+ video and Mpeg-1 Layer II/AAC (optional)/AC-3 audio format decoding.



Click the *Status* in the menu to go into status page where you can see *IP input Status, Decode Status.*

CD-SDI-00					Status Inp	out Decode System Setting
						IP Input Status Decode Status
Total Bitrate: 9.843 Mbps						
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
1.1	227.10.20.31 : 10000	•	9.105	9.843	۲	=
1.2	0.0.0.0 : 0	٠	0.000	0.000	۲	=
1.3	0.0.0.0 : 0	•	0.000	0.000	۲	=
1.4	0.0.0.0 : 0	•	0.000	0.000	۲	≣

Status >IP input Status

In this page, you can check info of each channel: *Effect Bit Rate, Total Bit Rate, TS Analysis and Service List.*

CD-SDI-00					Status Inp	ut Decode System Setting					
					1	P Input Status Decode Status					
Total Bitrate: 10.001 Mbps											
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List					
1.1	227.10.20.31 : 10000	•	9.252	10.001	۲	II					
1.2	0.0.0.0 : 0	•	0.000	0.000	۲						
1.3	0.0.0.0 : 0	•	0.000	0.000	۲						
1.4	0.0.0.0 : 0	0	0.000	0.000	۲	=					

Click the icon () in the **TS Analysis** list to see the TS analyzing result of each channel. Click the

icon (\blacksquare) in the **Service List** to see the Services of each channel.

• TS Analysis

Click *Reset Counter* to clear continuity count errors and restart counting. Fill in the search bar with key words of PID / Bit rate / bandwidth / table type / service name to get info you want.

Innel 1.1 TS Analysis Reset Counter									
				Search					
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service				
0×0(0)	0.019	0.192	127	PAT					
0x11(17)	0.019	0.192	127	SDT					
0x23(35)	0.195	1.969	0	Audio	td HD Phx Chinese Chann				
004(20)	8.911	89.956	127	PCR, Video	td HD Phx Chinese Chann				
UX24(50)									

[2] td HD Phy Chinese Channel

Service List

Click a service name to check its detailed info.

			[-]					
		Туре	PID	Bitrate(Mbps)				
	Channel: 11	PCR	36(0x24)	9.141				
	Ghanner. 1.1	PMT	37(0x25)	0.018				
#	Service	Audio	35(0x23)	0.202				
1	[2] td HD Phx Chinese Cha	Video(H264)	36(0x24)	9.141				
			Close					

Status >Decode Status

In this page, you can check info of each channel: *Source, Service, Video Foramt, Video Info and Audio Info.*

CD-SDI-00										System Setting	
								IP Inj	out Status	Decode Status	
Channel Status Source Samiles			Comileo	Video				Audio			
Channel	Status	Source	Source Service	Native Format	Output Format	Video Info			Audio Info		
1	•	17.1.2	1 (Service01)	400x300p 16x9 30.00fps	720x480i 1x1 29.97fps	PID:256 (H.264)	PI	D:257 (M	PEG2 AAC -	-kbpsKHz)	
2	•	None	None	-			-				
3	•	None	None	-			-				
4	•	None	None	-							

IP Input >Basic Setting

Here you can configure IP input parameters: *Destination IP Address*, *Destination Port, Protocol* (UDP/RTP), *TS Packets Per IP Packet,Input Processing Mode*,Click *Apply* to make the setting take effect.

CD-SDI-00									Status Input Deco	de Sys	stem Setting
									Basic Setting	Service C	Configuration
Batch Setting ^											
Select All			Start Channel-End Channel		1 -	4					
Enable		Disable 💌	Destination IP Address		227.10.20.80	San	ne 💌				
Protocol		UDP 👻	Destination Port		1234	Sam	10 💌				
			Pkt Length		7 💌						
< 1 >			Batch Setting								Chhil
Channel	Enable	Destination IP Address	Destination Port		Protocol		Pkt Length		Input Processing Mode		
1.1	~	227.10.20.100	10000	UDP		•	Auto	•	BR	•	
1.2		227.20.30.2	1234	UDP		•	Auto	•	BR	•	
1.3		227.20.30.3	1234	UDP		•	Auto	•	BR	-	
1.4		227.20.30.4	1234	UDP		•	Auto	•	BR	•	

There are two methods of IP input here:

• First, using the baseboard as an example (*Same as other receiver board without service configuration*): Setting the IP input on the baseboard, transmits IP input streams on the baseboard to the switch, CD2-SDI-00 receives streams from the switch.

Baseboard Setup

				📑 Status 📔 👸 Ir	nput	Outpu	t 🏾 🍥 System
Input				Sta	tus	IP Setting	IGMP Setting
Total Bitrate	: 12.348 Mbps						
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS	Servi	
1.1	227.10.20.31 : 10000	•	2.251	2.347	۲	≡ ^	
1.2	239.192.10.224 : 10000	•	9.436	10.001	۲		
1.3	227.110.110.11 : 10000	•	0.000	0.000	۲		

CD2-SDI-00 Setup

CD2-SD	00-10				S	Status Input De
						Basic Setting
atch Setting	J 🗸					
< 1	>					
Channel	Enable	Destination IP Address	Destination Port	Protocol	Pkt Length	Input Processing
1.1		227.10.20.31	10000	UDP -	Auto	CBR
1.2		239.192.10.224	10000	UDP	Auto	CBR

CD2-SDI-00 Status

CD-SDI-00					Status Inp	ut Decode System Setting
						P Input Status Decode Status
Total Bitrate: 10.001 Mbps						
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
1.1	227.10.20.31 : 10000	•	9.252	10.001	۲	
1.2	0.0.0.0 : 0		0.000	0.000	۲	=
1.3	0.0.0.0 : 0	•	0.000	0.000	۲	=
1.4	0.0.0.0 : 0	0	0.000	0.000	۲	=

• Second, using the baseboard as an example(Same as other receiver board have service configuration): Configure the program on the baseboard to go to CD2-SDI-00.

Baseboard Setup

				St	atus	💮 Input	္ခြဲ့ Outpu	ut 🛛 🏠 System	n Setting	<u>R</u> agent
Input						Status	IP Setting	IGMP Setting	Service	Configuratior
Channel Select: Channel 1.1 Program Clear	▼ S	canning Time(ms): 1	000	• PSI Search Ti	me(ms):	5000		Program Scan		
Service Name				Destination				Destination Se	etting	Apply
> Channel 1.1	+							¢		
✓ Channel 1.2	+			2.CD2-SDI-00[1.1]				¢		
[1] Program0								1		Clear Config
PID 17 (Other PID)								1		
> Channel 1.3	+							٥		

> In CD2-SDI-00 Decode page can pick the service program

CD2-SI	DI-00					Status Input	Decode
🌣 Advance	ed Setting >						
Ohennel	Service Select			Process	ing		Clear
Channel	Service	Audio	Format Mode	Manual Format	Audio State	Audio Volume	Service
1	[17.1.2] Program0 (Service ID: 1)	4112 🔻	Automatic -	720x480i 16x9 29.97fps 🔻	Enable -	100	×
2	None	None 💌	Automatic -	720x480i 16x9 29.97fps 🔻	Enable -	100	×
3	[17.1.2] Program0 (Service ID: 1)	None 🔻	Automatic -	720x480i 16x9 29.97fps 🔻	Enable -	100	×
4	None	None 🔻	Automatic 🔹	720x480i 16x9 29.97fps 🔻	Enable -	100	×

Decode Status

CD-SDI-00	D						Status Input Decode	System Setting
							IP Input Status	Decode Status
Channel	Ctature	C	0 i		Video		Audio	
Channel	Status	Source	Service	Native Format	Output Format	Video Info	Audio Info	
1	•	17.1.2	1 (Service01)	400x300p 16x9 30.00fps	720x480i 1x1 29.97fps	PID:256 (H.264)	PID:257 (MPEG2 AAC -	-kbpsKHz)
2	•	None	None		-	-	-	
3		None	None		-	-	-	
4	•	None	None	-	-	-	-	

CD2-SDI-00 supports transport with the following protocols: UDP, RTP.

1. UDP

Settings	Range	Description
Destination	Multicast:	
address	224.0.0.0	
	~239.255.255.	
	255	
	Unicast:	
	terminal IP	
	address	
Destination port	1~65535	
Total Bitrate	0 -	Need to be higher than the video
	30000Kbps	bitrate

2. RTP

Settings	Range	Description	
Destination	Multicast:		

address	224.0.0.0	
	~239.255.255	
	.255	
	Unicast:	
	terminal IP	
	address	
Destination port	1~65535	
Total Bitrate	0 —	Need to be higher than the video
	30000Kbps	bitrate

3. Other Setting

Settings	Range	Description
Pkt Length	Auto 1– 7	It represents the length or size of packets transmitted in network communication.
Input Processing Mode	CBR VBR Dejittering-C BR	CBR:Constant Bit Rate.The transmitted data stream is sent or encoded at a constant bit rate. VBR:Variable Bit Rate.The encoder automatically adjusts the bit rate according to the characteristics of the audio or video content to provide the best encoding quality for each time period. Dejittering-CBR:Using CBR to transmit or encode data, using jitter technology to reduce or eliminate the timing instability caused by jitter.

If you want to configure a batch of channels, please click *Batch Setting*

To set the IP input parameters in batch, you can check the boxes before parameters you need then choose / modify the values. Click *Apply* to make the setting take effect.

CD-SDI-00							Status	Input Dec	ode System Sett	ting
								Basic Setting	Service Configurat	tion
Batch Setting ^										
Select All			Start Channel-End Channel	1	- 4					
Enable		Disable 💌	Destination IP Address	227.10.20).80 Sa	ime 👻				
Protocol		UDP -	Destination Port	1234	Sa	ime 💌				
			Pkt Length	7					6	
			Batch Setting						Apr	
< 1 >										
Channel	Enable	Destination IP Address	Destination Port	Protoco	bl	Pkt Length	Input P	rocessing Mode		
1.1	✓	227.10.20.100	10000	UDP	•	Auto	CBR		•	
1.2		227.20.30.2	1234	UDP	•	Auto	CBR		•	
1.3		227.20.30.3	1234	UDP	-	Auto	CBR		•	
1.4		227.20.30.4	1234	UDP	•	Auto	CBR		•	

IP Input >Service Configuration

To stream a source stream, you can configure the destination in this page.Can also configure to CD2-SDI-00 to give decoding

CD-SDI-00		Status Input Decode System Setting
		Basic Setting Service Configuration
Channel Select: Channel 1.4	Scanning Time(ms): 1000 • SI Search Time(ms): 5000 Program Scan Program Clear	
Service Name	Destination	Destination Setting
✓ Channel 1.1	12.CD-SDI-00[1.1]	\$
[1] Wellav service		Apply
V Channel 1.2	12.CD-SDI-00[1.2]	\$
[1] Service01		Clear Confin
V Channel 1.3	12.CD-SDI-00[1.3]	¢
[1] Thairath HD		1
✓ Channel 1.4	12.CD-SDI-00[1.4]	٥
[1] Program0		1

- Multiplex or Bypass stream: Click the setting icon (*), check the output module, and then you can set the output channel of this stream. After you select bypass mode, this output channel will be occupied only by this stream.
- Multiplex services: You should click the service line setting icon () to make the certain service output from certain channel combining with other services. The operation you can refer to multiplex stream output.

	Channel 1.1		8
✓ 12.CD-SDI-00	Channel1	✓ Multiplex	Bypass
а	Channel2	Multiplex	🗹 Bypass
0	Channel3	Multiplex	Bypass
-	Channel4	Multiplex	Bypass
· · · · · · · · · · · · · · · · · · ·			
	OK Cancel		

After setting the output destination, click *Apply* to make it take effect. The destination channel will be displayed in the channel/service line. And you can also click *Clear Configuration* to clear all of the configuration.

There is a channel scan button (^{Channel Scan}) on top. Normally the input service list of each channel will load itself on this page, but when you change the input source, the list could not refresh immediately. You can refresh the changed channels manually by selecting the channel and clicking the channel scan button.

Decode

Here you can configure decode parameters: *Service*, *Audio*, *Format Mode*, *Audio State*, *Audio Volume*.

Decode the programs coming from the various boards.

CD2-SE	DI-00					Status Input	Decode	System Setting
Advance	ed Setting >							
Channal	Service Select			Process	ing		Clear	
Channel	Service		Format Mode	Manual Format	Audio State	Audio Volume	Service	Apply
1	[17.1.2] Program0 (Service ID: 1)	4112	Automatic	720x480i 16x9 29.97fps 🔻	Enable -	100	×	
2	None	None	Automatic	720x480i 16x9 29.97fps 🔻	Enable 🔹	100	×	
3	[17.1.2] Program0 (Service ID: 1)	None	Automatic	720x480i 16x9 29.97fps 🔻	Enable -	100	×	
4	None	None	Automatic	720x480i 16x9 29.97fps 🔻	Enable	100	×	

Decode Setting

Settings	Range	Description	
Audio	None digital	Audio format	
Format Mode	Automatic	Select resolution	
	Manual		
Audio State	Enable		
	Disable		
Audio Volume	0–100		

6 Appendices

Appendix A – Power Consumption

CMP100 Power supply	350W
CMP201AD/201A/203A Power supply	400W
CMP201/201D/203 Power supply	200W
CMP201 Chassis	Max.21W
CMP201AD Chassis	Max.45W
CMP201A Chassis	Max.44W
CMP201D Chassis	Max.23W
CMP203 Chassis	Max.37W
CMP203A Chassis	Max.59W
CMP100 Chassis	Max.72W
CR2-DVBC-00:DVB-C AnnexA/C	Max.9W
CR2-DVBC-00:DTMB	Max.9W
CR2-DVBC-01:DVBC AnnexB	Max.9W
CR2-DVBC-01:ISDB-T	Max.9W
CR2-DVBS2FTA-01	Max.38W
CR2-DVBS2FTA-01A	Max.70W
CR2-DVBS2CI-01	Max.22W
CR2-DVBT2CI-00	Max.8W
CR2-8VSB-00	Max.9.5W
CM2-8VSB-R01/R01A	4CH: Max.12W; 8CH: Max.14W

CM2-DTMB-R01/R01A	4CH: Max.12W; 8CH: Max.14W
CM2-OFDM-R01/R01A	4CH: Max.12W; 8CH: Max.14W
CM2-QAMB-R01/R01A	4CH: Max.12W; 8CH: Max.14W
CM2-QAMA-R01/R01A	4CH: Max.12W; 8CH: Max.14W
CM2-ISDBT-R01/R01A	4CH: Max.12W; 8CH: Max.14W
CM2-QAMA-02/02A	Max. 41W
CM2-DTMB-03	Max.23W
CM2-QAMA-03	Max.24W
CM2-QAMB-03	Max.23W
CM2-OFDM-03	Max.23W
CM2-ISDBT-03	Max.23W
CM2-8VSB-03	Max.23W
CM2-QAMB-02A	Max.41W
CM2-QAMA/B-R00	Max.21W
CE2-HDMI-R01	Max.12W
CE2-HDMI-02C	Max.17W
CE2-HDMI-02	Max.17W
CE2-HDMI-05A	Max.21W
CE2-HDMI-R05	Max.19W
CE2-HDMI-06	Max.20W
CE2-SDI-01	Max.16W
CE2-CVBS-00	Max.17W
CE2-CVBS-R01	Max.18W
CP2-EAS-00	Max.5.5W

CP2-IP-00	Max.16W
CP2-IP-02	Max.9W
CP2-ASI-00	Max.8W
CP2-EIT-00	Max.5W
CP2-CAM-00	Max.6W
CX2-TXS-00	Max.49W
CD2-SDI-00	Max.25W

Comments: The chassis includes both the baseboard's and fan's

Appendix B – Abbreviations

8VSB	Vestigial sideband modulation with 8 discrete amplitude levels
16VSB	Vestigial sideband modulation with 16 discrete amplitude levels
AAC	Advanced Audio Coding
AC-3	Also known as Dolby Digital
ASI	Asynchronous Serial Interface
ATSC	Advanced Television Systems Committee
AV	Audio Video
BAT	Bouquet Association Table
BER	Bit Error Ratio
Bit Rate	The rate at which the compressed bit stream is delivered
BNC	British Naval Connector
САМ	Conditional Access Module
CAT	Conditional Access Table
CAT6	Category 6 – Cable standard for gigabit Ethernet

CBR	Constant Bitrate
CI	Common Interface
CVBS	CompositeVideoBroadcastSignal
СС	Closed Caption
dB	Decibel
DVB	Digital Video Broadcasting
EIT	Event Information Table
EPG	Electronic Program Guide
FEC	Forward Error Correction
GOP	Group of Pictures
HD	High Definition
HDCP	High-bandwidth Digital Content Protection
HDMI	High Definition Multimedia Interface
	The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.
I/O	Input/output
Kbps	1000 bit per second
LCN	Logical Channel Number
LNB	Low-Noise Block
LO	Local Oscillator
Mbps	1,000,000 bits per second
MER	Modulation Error Ratio
MIB	Management Information Base
MPTS	Multi-program Transport Stream
NUT	
	Network Information Table
OFDM	Network Information Table Orthogonal Frequency-Division Multiplexing
OFDM PAT	Network Information Table Orthogonal Frequency-Division Multiplexing Program Association Table

PID	Packet Identifier
РМТ	Program Map Table
PSI	Program Specific Information
PSU	Power Supply Unit
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase-Shift Keying
SD	Standard Definition
SDI	Serial Digital Interface
SDT	Service Description Table
SI	Service Information
SNMP	Simple Network Management Protocol
SNR	Signal Noise Ration
SPTS	Single Program Transport Stream
TDT	Time and Date Table
TS	Transport Stream
VBR	Variable Bitrate

Appendix C- Warranty

We warrants this instrument against defects from any cause, except acts of God and abusive use, for a period of 1 (one) year from date of purchase. During this warranty period, we will correct any covered defects without charge.

Appendix D- After-Sales Support

Please contact our sales/regional representatives for any help, product information, and troubleshooting.

Returning Products for Service

The CMP201A is a delicate piece of equipment and needs to be serviced and repaired by the manufacturer. In order to expedite this process please carefully read the following items.

• Confirm the required component

Before any product can be returned for service, the client ought to contact our sales representatives and after-sales support department by means of email to confirm the need to return the product or parts of the product.

Collect the Serial Numbers to obtain RMA Number

Serial Number (SN) is printed on a label on the chassis and modules. To create a RMA number, SN must be submitted to support department. Once the RMA number has been issued to the client, the unit/component needs to be packaged and shipped back to the manufacturer. It's best to use the original box and packaging for the product but if this not available, check with the service department for the proper packaging instructions. RMA Number should be specified in the delivery bill or written on the package.

Do not return any power cables or accessories unless instructed to do so.