CMP201D

Media Platform

User Guide



Revision History

Date	Version	Description	Author
25/12/2018	1.0	First Draft	SW
25/4/2019	1.1	Add new modules and new features	DA
5/6/2019	1.2	Add new modules and modify the baseboard description	CJ
9/7/2019	1.3	Add new modules and new features	SW
14/11/2019	1.4	Add module CP2-CAM-00	MC
28/12/2019	1.5	Add EAS parts for relevant encoding modules	CJ
31/8/2020	1.6	Modify the pictures and content according to V1.4.0. Add Module CR2-DVBS2FTA-01, CE2-HDMI-06, CM2-MOD-02, CP2-EIT-00	JP
11/6/2021	1.7	Add Module CP2-ASI-00, CP2-IP-00	RS
12/8/2022	1.8	Add module CE2-HDMI-06B,CP-IP-02	Aiv
31/3/2023	1.9	Add CMP Chassis and daughter boards power consumption.	Fr
14/3/2023	1.10	Add module CX-TXS-00, New features.	RF
26/4/2023	1.11	Update the manual as a whole.	RF
27/9/2023	1.12	Add Module CD2-SDI-00	JY
30/1/2024	1.13	Update Safety Instructions	RF
20/3/2024	1.14	Fix some editing errors and format errors	JS
23/3/2024	1.15	Update the information of Appendix A-Power Consumption	SW

A DANGER	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.
=¥= 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.
	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

CMP201D 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. 4 RJ45 ports for remote network management
- 3. Status and Power Indicators and Reset button

1.2 Back Panel

CMP201D



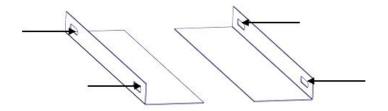
- I. 6 hot-swappable modules
- II. Dual Power Supply
- III. Ground

2 Installation

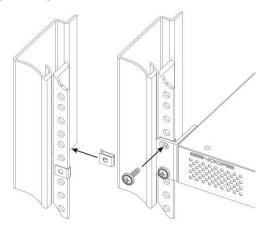
2.1 Rack Installation

The CMP201D 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 CMP201D. 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 CMP201D 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 CMP201D, personnel, or property. Make sure the power outlet is switched off before plug or unplug the power cable from the panel of CMP201D.

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 CMP201D Baseboard

CMP201D	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-02	•	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 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 CMP201D management port directly.
- Set the IP address of the laptop/computer in the same network segment with the CMP201DBaseboard. CMP201D 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 CMP201D 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

CMP201D has 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 CMP201D 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 CMP201D 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.

	CMP201 Media	a Platfo	rm		
1	Jsername		Password		
¢φ	(English			Login	

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

смр201			c)	Status @ Input @ Output	May, 03rd, 2023 04-12-56
Module List	Status Temperature: 58°C (136.4°F)	b)		Device Status	Device Alarm Device Information
3 CH2-ISDBT-R01A 5 CH2-ASI-00 6 CH2-QAMA-R01A				Reset Status Power Module Status Module Power	
		Module 4: Not inserted Module 1: Not inserte		ule 6: Normal	

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.

tus		Device Status	Device Alarm Device Inform
			Alarm Setting Alarm F
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: 38	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.

				Device Stat	tus Device Alarm Device Informat
	Alarm	Setting			Alarm Setting Alarm Re
Name	Z Alarm	Logs	SNMP Trap	n Type	Last Changed
Device overheat			2	t TSIP	2022/07/19 20:27:28
Power supply abnormal		2	2	tTSIP	2022/07/19 20:27:28
Module loading failure			2	t TSIP	2022/07/19 20:27:28
Output overflow		2		tTSIP	2022/07/19 20:27:28
Input unlock		Z	2	t TSIP	2022/07/19 20:27:28
Input overflow		2	2	tTSIP	2022/07/19 20:27:28
Link down	2	2		t TSIP	2022/07/19 20:27:28
Low fan speed				t TSIP	2022/07/19 20:27:28

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		4		
				<u></u>	Ŧ	Alarm Setting Alarm
Name	Location	Status	Alarm Type	Last Changed		Last Changed
Input unlock	Backboard Channel: 1	Activate	Input TSIP	2022/07/19 20:27:27	A	2022/07/19 20:27:28
Input unlock	Backboard Channel: 2	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 3	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 4	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 5	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 6	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 7	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 8	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 9	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 10	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:28
Input unlock	Backboard Channel: 11	Activate	Input TSIP	2022/07/19 20:27:27		
Input unlock	Backboard Channel: 12	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:27
Input unlock	Backboard Channel: 13	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:27
Input unlock	Backboard Channel: 14	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:27
Input unlock	Backboard Channel: 15	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:27
Input unlock	Backboard Channel: 21	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:27
Input unlock	Backboard Channel: 22	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:27
Input unlock	Backboard Channel: 23	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:27
Input unlock	Backboard Channel: 24	Activate	Input TSIP	2022/07/19 20:27:27		2022/07/19 20:27:27
						2022/07/19 20:27:27
	_					2022/07/19 20:27:27
		lose				2022/07/19 20:27:27

Status>Device Information

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

tatus			Device Status	Device Alarm Device Information
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 CMP201D's baseboard. Click the *Apply* button on the right side to make the change take effect.

System Setting)			Network System	I Time User SNMP	Advanced Settin
dvanced Setting						
IPV4 IPV6 Module Name	IP Address	Subnet Mask	Default Gateway	DNS Server IP	MAC Address	Apply
MS	192.168.1.10	255.255.255.0	192.168.1.254	0.0.0.0	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						

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

Network Syst	em Time	User SNMP	Advanced Setting
May. 03rd, 2023 04:18:33	•		Apply
Manual	•		
	May. 03rd, 2023 04:18:33	May. 03rd, 2023 04:18:33 UTC +0: 00	May. 03rd, 2023 04:18:33 UTC +0: 00

• Manual mode

System Setting		Network S	System Time	e User SNM	P Advanced Setting
	System Time Time Zone	May. 03rd, 2023 04:19:16	Ţ		Apply
	Mode Time	Manual Manual Automatic	•	/	

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		/ availed ootii
Select Module	Automatic Detection	
Upgrade	Browse Upload	
Configuration		
Import Configuration	Browse Upload	
Export Configuration	Export	
License		
Product ID		
Import License	Browse Upload	
Export License	Export	
Standard		
Select Standard	DVB CK	
Select LCN Standard	International	
SNMP MIB		
Export MIB	Export	

System Setting> User

In User page you can reset login password.

Current Password	
Current Password	
	Operator
	Password
New Password	
Confirm Password	
OK Cancel	

System Setting> SNMP

In SNMP Setting page you can SNMP traps addresses.

System Setting		Network System Time	User SNMP Advanced Setting
SNMP: Trap IP Address1 (IPv4):	Enable	▼ Enable: □	Apply
Trap IP Address1 (IPv6):	2001::c0a8:1af	Enable:	
Trap IP Address2 (IPv4): Trap IP Address2 (IPv6):		Enable:	
Read-Only Community: Read-Write Community:	public		

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.

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 i i i i i i i i i i i i i i i i i i
1.2	239.33.33.2 : 10000	0.000	0.000	۲	i =
1.3	239.33.33.3 : 10000	0.000	0.000	۲	
1.4	239.33.33.4 : 10000	0.000	0.000	۲	i =
1.5	239.33.33.5 : 10000	0.000	0.000	۲	i
1.6	239.33.33.6 : 10000	0.000	0.000	۲	i =
1.7	239.33.33.7 : 10000	0.000	0.000	۲	i =
1.8	239.33.33.8 : 10000	0.000	0.000	۲	:=
1.9	239.33.33.9 : 10000	0.000	0.000	۲	i =
1.10	239.33.33.10 : 10000	0.000	0.000	۲	i =
1.11	230 33 33 11 - 10000	0.000	0.000	0	:= -

Click the icon (()) in the **TS Analysis** list to see the TS analyzing result of this channel. Click the

icon (\blacksquare) in the **Service List** to see the Services of each channel.

• TS Analysis

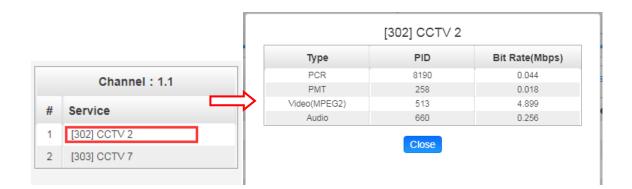
Click *Reset Counter* button to clear continuity count errors and restart counting. Fill in the search bar with the key words of PID / Bit rate / bandwidth / table type / service name in the search bar to get the info you want.

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			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		
0x294(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.



Input >IP 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	🏠 Input 🛛 🏠 Output	System Setting	<u> </u>
Input					Status IP Setting	IGMP Setting Ser	vice Configurati
atch Setting		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		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	6	Input 🏠 Outp	ut 📔 🎡 Syster	m Setting 📔 🧕 age
Input						Status IP Settir	IGMP Settin	ng Service Configu
atch Setting	<u>,</u> ^							
Select Al	I		Start Channel-End Channel	1		- 120		
🗌 Enable	e	Disable	Destination IP Address	227.10.20.8	0	Same 💌	•	Apply
Proto	ol	UDP 💌	Destination Port	1234		Same		Cappi
🗆 Input I	Processing	CBR 👻	Pkt Length	Auto	Ŧ			
< 1	2 3 4	5 6 7 8 >	Batch Setting					
	Enable	Destination IP Addres	s Destination Port	Protocol	Inpu	t Processing Mode	e Pkt Lei	ngth
Channel	Enable	Destinution in Address						
Channel		227.10.29.99	3001		CBR		▼ Auto	•
Channel 1.1 1.2			3001 4001	UDP -			AutoAuto	• •

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	+		\$
[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
[33] Program5		5.CP2-ASI-00[1.1, 1.2]	l l
PID 17 (SDT, BAT)			1
PID 18 (EIT)			1
PID 20 (TOT, TDT)			1
PID 21 (Other PID)			1
Channel 1.3	+		¢
[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 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.

	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 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

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 Ba	isic Setting	Service Configuration	PSIF
Total Bit	rate: 15.000 Mbps								
Chan	IP Address : Port	Effective Bitrate	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service L	ist		
1.1	228.10.20.31 : 1234	0.045	15.000	Normal	۲		^		
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				
1.14	0.0.0.0 : 0	0.000	0.000	Normal	۲				
1.10		0.000	0.000	- an	-		•		

Output >IP Settings

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

ch Setting	^										
nterval: 1	00	(ms) Null	Packet Filter: Disable	•							
< 1 2	2 3 4	5 6 7 8	>								
Channel	Enable	Source Port	Destination IP Addr	Destination Port	Protocol		Pkt Length	Bitrate(M	Enable Destination MAC	Dest	ination MAC
1.1		1000	227.10.20.1	1234	UDP	•	7 🔹	10	Disable	01:00:5	E:0A:14:01
1.2		1000	227.10.20.2	1234	UDP	•	7 🔹	10	Disable	01:00:5	E:0A:14:02
1.3		1000	227.10.20.3	1234	UDP	•	7 🔹	10	Disable	01:00:5	E:0A:14:03
1.4		1000	227.10.20.4	1234	UDP	•	7 🔹	10	Disable	01:00:5	E:0A:14:04
1.5		1000	227.10.20.5	1234	UDP	•	7 👻	10	Disable	01:00:5	E:0A:14:05
1.6		1000	227.10.20.6	1234	UDP	•	7 👻	10	Disable	01:00:5	E:0A:14:06
1.7		1000	227.10.20.7	1234	UDP	•	7 🔹	10	Disable	• 01:00:5	E:0A:14:07
1.8		1000	227.10.20.8	1234	UDP	•	7 👻	10	Disable	• 01:00:5	E:0A:14:08
1.9	~	1000	227.10.20.9	1234	UDP	•	7 🔹	10	Disable	01:00:5	E:0A:14:09
1.10		1000	227.10.20.10	1234	UDP	•	7 👻	10	Disable	01:00:5	E:0A:14:0A
1.11		1000	227.10.20.11	1234	UDP	•	7 🔹	10	Disable	01:00:5	E:0A:14:0B
1.12		1000	227.10.20.12	1234	UDP	•	7 🔹	10	Disable	01:00:5	E:0A:14:0C
1.13		1000	227.10.20.13	1234	UDP	•	7 🔹	10	Disable	• 01:00:5	E:0A:14:0D
1.14		1000	227.10.20.14	1234	UDP	•	7 👻	10	Disable	01:00:5	E:0A:14:0E

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".

Output								Stat	us IP Settin	Service Configu	uration F
<u>atch Settir</u>		_									
Select All				Start (Channel-En	d Channel	1		120		
		Disable		🗌 Des	Destination IP Address		227.10	227.10.20.80 Same		Apply	
Sour	ce Port	1000		🗆 Des	stination Po	ort	1234		Same	T	0
Proto	col	UDP	~	🗆 Pkt	Length		7	T			
Bitrate		25	(Mbps)	(lbps)		ation MAC	Disable - AA		AA:BB:CC:DD:	EE:FF	
(Interval:		(m 4 5 6	· · · · · · · · · · · · · · · · · · ·	Iter: Disable	▼ Protocol	Pkt Length	Bitrate	Enable Des	tination MAC	Destination M	
						-					
1.1	✓	1000	227.10.20.1	1234	UDP 🔻	7 •	10	Disable	•	01:00:5E:0A:14:01	
		1000	227.10.20.2	1234	UDP 🔻	7 🔹	10	Disable	•	01:00:5E:0A:14:02	
1.2											
1.2 1.3		1000	227.10.20.3	1234	UDP 🔻	7 💌	10	Disable	•	01:00:5E:0A:14:03	

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

Output >Service Configuration

You can make configuration for output services and TS.

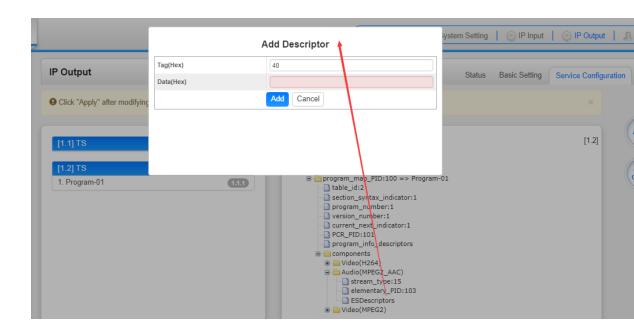
		Status 💮 Input 💮 Output 💮 System Se	tting │ <u> </u>
		Status IP Setting Service	Configuration PSIF
rs to save the configuration.			×
⊗ ✿ ^		[1.1] TS >> Program4	Apply
17.1.1	Service ID	35	
	Service Name	Program4	Clear Config
	Service Provider	Program4	
	Service Type	2	
	PCR PID	3502	
	PMT PID	3501	
	Video(H264)	3502	
	Audio	3503	
	Private Data	3507	
	Private Data/AC3	3506	
	⊗ ♦ ∧		Status IP Setting Service s to save the configuration.

- 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.

Output		Status IP Setting	Service Configuration
• Click "Apply" after modifying your parameters to save the configuration.			×
[1.1] TS © ‡ ^ 1. Program4 17741	NIT TOT PMT	[1.1] TOT Configuration	[1.1]
	Country Code	CHN	
	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	
		ОК	

PMT setting: Adding ES and Descriptors

			Aug. 15th,	202
		Add ES	ystem Setting 🎡 IP Input 🏠 IP Output	R
IP Output	Other PID List	Slot: [Main Board]; Channel: [1]; Other PID: [1795];	Status Basic Setting Service Configuratio	
	Stream Type [0,255]	1		
Click "Apply" after modifying	Tag(Hex)	40	×	
	Data(Hex)	0010e1		
		Add Cancel	(4.2)	(
[1.1] TS			[1.2]	
[1.2] TS				
1. Program-01	1.1.1	program_nap_PID:100 => Program table_id:2	m-01	6
		section_syntax_indicator:1		
		— program_number:1 — version_number:1		
		Current_next_indicator:1		
		program_infp_descriptors		
		😨 📄 components 🔪		



> Output >PSIP

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

Output		Status IP Setting Service Configuration PSIP
Output C	hannel List	Output Channel [1.1]>> PSIP
< 1 2 3 4 5 6	i 7 8 > >>	✓ PAT Insert ✓ PMT Insert
Output Channel	Select All	✓ PM Inset
1.1		
1.2		☑ CAT Insert
1.3		🗹 TDT Insert
1.4		TOT Insert
1.5		
1.6		ОК
1.7		
1.8		
1.9		
1.10		
1.11		
1.12		

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-DVBC	-00				Status CI Ba	sic Setting Service C	onfiguration 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	0.000000000	-	۲	
1.3	Unlocked	0.000	0.000	0.00000000	-	۲	
1.4	Unlocked	0.000	0.000	0.000000000		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.

PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
				Search	Q
				Coord	

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 Ch
3	[304] CCTV 10	3	[1001] TVB8	3	[3] India News	3	[3] td HD Phx HK Channe
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		
				7	[7] India News MP		
				8	[8] NEWS X		

You can check program details by clicking the program item.

Туре	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.

	MMI Setting	
CAM2 (Not inserted)	AP	ply

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 Confi	guration Syste
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

CR2-DVBC-00		Status CI Basic Se	tting Service Configuration
Channel Select: Channel 1.1	 Scanning Time(ms 	1000 ISI Search Time(ms): 5000 Program Scan	
Service Name	Descrambling	Destination	Destination Setting
Channel 1.1	+		¢ Ap
1] HDMI	No Descrambling		1
2] SDI	No Descrambling		
PID 20 (TOT, TDT)	No Descrambling		Co

Service Configuration page is where you can manage the received services and output them to their designated interface. The configuration of all modules in CMP201Dis 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 to and low "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 >System

CR2-DVBC-00				Status C	Basic Setting	Service Configuration	System
Change Modulate Type	DVBC - Apply						
Program Auto Scan							
	Enable	Set					
License							
Product ID		EB13144680041					
Import Lice	ense			Browse	Upload		
Export Lice	ense	Export					
SNMP MIB							
Export MIB		Export					
Logs							
Оре	en						
Others							
Ret	boot	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 Configu	ration 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
nannel	Locked Status	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	PER	RF Level	CNR(dB)	Link Margin(FEC Code Rate	Modulation	TS Analy	Service
1.1	Locked	130.159	7.500	0.000000000	-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	0.000000000	-	0.000	0	1/2		۲	:=
4.1	Unlocked	0.000	0.000	0.000000000	-	0.000	0	1/2		۲	:=
4											- F

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
0×0(0)	0.007	0.025	0	PAT	
0x1e0(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	1	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	4	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

Channel	Satellite Frequency(MHz)	SymbolRate(KBaud)	LNB Frequency(MHz)	LNB Power	LNB 22KHz	DiSEqC Level	DiSEqC Port	DiSEqC Bytes(Hex)	
1.1	3840	27500	5150	off 🔹	off 👻	Disable 🔻	1 •	FFFFFFFFFF	
2.1	3840	27500	5150	off	off 💌	Disable 💌	1 •	FFFFFFFFFF	Ap
3.1	3840	27500	5150	off 👻	off 👻	Disable 👻	1 •	FFFFFFFFFF	
4.1	3840	27500	5150	off 💌	off 💌	Disable 💌	1 •	FFFFFFFFFF	
5.1	3840	27500	5150	off 👻	off 👻	Disable 👻	1 •	FFFFFFFFF	
6.1	3840	27500	5150	off 💌	off 💌	Disable 💌	[1 •	FFFFFFFFFF	
7.1	3840	27500	5150	off 💌	off 💌	Disable 💌	1 •	FFFFFFFFFF	
8.1	3840	27500	5150	off	off 👻	Disable 💌	1	FFFFFFFFFFF	

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.

					Status Biss S	ettings Service Configuration IP	Output System Operati			
	Biss-E •	321434354654654€	32425543534646 +			Service List				
Biss ID	Mode Key Injecte		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-0	1		Status Biss	Basic Setting	Service Configuration	IP Output	System
There are unapplied setting	ngs, please click	the apply button to apply your settings!					
Channel Select : Channel 1.1	- Scanning	g Time(ms) : 1000	Channel S	can			Apply
Service Name			Destination			Destina Settir	Clear
Channel 1.1	+					3.^	Config
302] CCTV 2		17	7.Baseboard[1.9]			4	
307] CCTV 15		7.CN	/2-ISDBT-R01A[1.1]				
402] HNSTVHD						4	
412] HNTVAVS+						4	
2] Encryption						4	
500] Jiajiakatong						4	
PID 1 (Other PID)						4	
PID 33 (Emm PID)						4	
Channel 2.1	+					3	
2021-0-07-02		4*	7 Dasaboard[4 0]				

1.CR2-DVBS2FTA-01 <	< 1 2 3 4 >		
2.CM2-MOD-02 >>	Channel1	 Multiplex 	
7.CM2-ISDBT-R01A >>		,	
17.Baseboard >>	Channel2	 Multiplex 	
III.Baseboard	Channel3	Multiplex	
	Channel4	Multiplex	
	Channel5	Multiplex	
	Channel6	Multiplex	
	Channel7	Multiplex	
	Channel8	Multiplex	
PID	Туре	Enable	
8190(0×1ffe)	PCR	۲	
513(0x201)	StreamType:2-Video(MPEG2)		
660(0×294)	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 value if	f service name is not present, while it will sl	ow 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	SI Search Time(ms) : 5000	Program Scan
Please try to increase this value i	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.

CMP201D User Guide

							Status Sett	tings Service Configu	uratio
Channel	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	Bitrate	IP Address : Port	TS Analysis	Service List		Channel : 1.1	_
1.1	25.004	0.042	Normal	227.10.30.1 : 1234	۲		# Service		
1.2	25.004	0.042	Normal	227.10.30.2 : 1234	0		1 [302] C	070/0	
1.3	0.000	0.000	Normal	227.10.30.3 : 1234	۲		1 [302] C	UTV Z	
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	0.0.0.0:0	۲	I			
1.7	0.000	0.000	Normal	0.0.0.0:0	۲				
1.8	0.000	0.000	Normal	0.0.0.0:0	۲	=			
1.9	0.000	0.000	Normal	0.0.0.0:0	۲				
1.10	0.000	0.000	Normal	0.0.0.0:0	۲	I			
1.11	0.000	0.000	Normal	0.0.0.0:0	۲				
1.12	0.000	0.000	Normal	0.0.0.0:0	۲	I			
1 13	0.000	0.000	Normal	0.0.0.0		· ·			
nannel 1.1	TS Analysis					Search		Reset Counter	er Q
	PID	Bitrate(Mbps)			ontinuity Count Error	Тур		Service	
	0x0(0)	0.015	-	.060	0	PAT			
	x11(17)	0.013		.052	0	SD1			
	102(258) 201(513)	0.013	0	.052	0	PM	Т	CCTV 2	

	VBS2FTA-01				Status Biss	Settings Service (Configuratio	n IP Outpu	ut System Operatio
							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	III 🔺			
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				
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	I			
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.

 Enable ■ Destination IP Address Source Port 1000 ■ Destination Port TS Packets Per IP Packet TS Packets Per IP Packet TS Packets Per IP Packet Batch Setting 		DVBS2FTA	-01				Status	Biss	Settings Serv	ice Configuration IP Out	put Syster
Select All Start Channel-End Channel 1 64 Enable Destination IP Address 227.10.20.80 Same Protocol UPP Bitrate 25 Enable Destination MAC Disable AABB: CCDD: EE Bitrate Enable Destination MAC Disable ABB: CCDD: EE Bitrate Enable Destination IP Address Destination P Protocol TS Packets Per IP Pa Bitrate(Mbps) Enable Destination M 1 1.1 Ø 1000 227.10.30.1 1234 UDP 7 7 9 25 Disable 124 UDP 7 7 9 25 Disable 125 Disable 124 UDP 7 7 9 25 Disable 124 UDP 7 7 9 25 Disable 124 UDP 7 7 9 25 Disable 125 Disable 126 Disable 127 Disable 127 Disable 128 Disable 129 Disable 129 Disable 120 Disable 120 Disable 120 Disable 120 Disable 120 Disable 120 Disable 121 Disable 122 Disable 123 Disable 123 Disable 123 Disable 124 DDP 7 7 9 25 Disable 125 Disable 124 DDP 7 7 9 25 Disable 125 Disable 125 Disable 126 Disable 127 Disable 127 Disable 128 DDP 7 7 9 25 Disable 129 Disable 129 Disable 120 DDP 7 7 9 25 Disable										Status Settings	Service C
Image: Source Port Disable □ Destination IP Address 227.10.20.80 Same ▼ Image: Source Port 1000 □ Destination Port 1234 Same ▼ Image: Protocol UDP □ TS Packets Per IP Packet 7 ▼ Image: Bitrate 25 □ Enable Destination MAC □ Isable ▲ ABB: CC: DD: EE Image: Bitrate 25 □ Enable Destination P Protocol Isable ▲ ABB: CC: DD: EE Image: Bitrate 25 □ Enable Destination P Protocol TS Packets Per IP Pa Bitrate(Mbps) Enable Destination M Image: Channel Interval: 1000 227.10.30.1 1234 UDP 7 ✓ 25 Disable Image: Chanle	ch Settir	<u>19.</u> ^									
Source Port 1000 Destination Port 1234 Same Protocol UDP TS Packets Per IP Packet 7 - Bitrate 25 Enable Destination MAC Disable AABB:CC:DD:EE Bitrate 25 Enable Destination P Protocol TS Packets Per IP Pa Bitrate(Mbps) Enable Destination M Channel Enable Source Port Destination IP Address Destination P Protocol TS Packets Per IP Pa Bitrate(Mbps) Enable Destination M Interval: 1.1 1000 227.10.30.1 1234 UDP 7 25 Disable Interval: 1.2 1000 227.10.30.2 1234 UDP 7 25 Disable Interval:	Select A	ui -		Start Ch	annel-End Chann	nel	1	- 64			
Protocol UDP TS Packets Per IP Packet 7 Bitrate 25 Enable Destination MAC Disable AA:BB:CC:DD:EE Batch Setting Batch Setting Batch Setting Batch Setting Channel Enable Source Port Destination IP Address Destination P Protocol TS Packets Per IP Pa Bitrate(Mbps) Enable Destination M Inclusion M 1.1 Ø 1000 227.10.30.1 1234 UDP 7 ✓ 25 Disable ✓ 1.2 Ø 1000 227.10.30.2 1234 UDP 7 ✓ 25 Disable ✓	Enabl	le	Disable	- Destin	nation IP Address	;	227.10.20.80	Same	-		
Bitrate 25 Enable Destination MAC Disable AA:BB:CC:DD:EE Bitrate Batch Setting Bitrate(NDP) AA:BB:CC:DD:EE Channel Enable Source Port Destination IP Address Destination P Protocol TS Packets Per IP Pa Bitrate(Mbps) Enable Destination M Indicate Indited Indited Indicate Indicate Indited Indicate Indite	Source	e Port	1000	Destin	nation Port		1234	Same	•		
Batch Setting Channel Enable Source Port Destination IP Address Destination P Protocol TS Packets Per IP Pa Bitrate(Mbps) Enable Destination M 1.1 Image: Color of the structure	Proto	col	UDP	TS Pa	ackets Per IP Pack	ket	7 *				
K Interval: 100 Channel Enable Source Port Destination IP Address Destination P Protocol TS Packets Per IP Pa Bitrate(Mbps) Enable Destination M Interval: 1.1 Image: Comparison of the particular of the partice of the particular of the partice of the particular	Bitrat	e	25	Enable	le Destination MA	C	Disable -	AA:BI	B:CC:DD:EE		
1.1 Image: Second											
			1	Destination IP Address	Destination P	Protocol	TS Packets Per	IP Pa	Bitrate(Mbps)	Enable Destination M	Destin
1.3 🛛 1000 227.10.30.3 1234 UDP 🔹 7 🔹 25 Disable 👻	hannel	Enable	Source Port								
	hannel 1.1	Enable <i>€</i>	Source Port	227.10.30.1	1234	UDP -	7	•	25	Disable	01:00:
1.4 🕑 1000 227.10.30.4 1234 UDP 🕶 7 🕶 25 Disable 💌	hannel 1.1 1.2	Enable Ø	Source Port 1000 1000	227.10.30.1 227.10.30.2	1234 1234	UDP • UDP •	7	•	25 25	Disable	01:00:
1.5 🛛 1000 227.10.30.5 1234 UDP 🔻 7 💌 25 Disable 💌	hannel 1.1 1.2 1.3	Enable Ø Ø	Source Port 1000 1000 1000	227.10.30.1 227.10.30.2 227.10.30.3	1234 1234 1234	UDP • UDP • UDP •	7 7 7	• •	25 25 25	Disable	01:00:
1.6 1000 227.10.30.6 1234 UDP • 7 • 25 Disable •	hannel 1.1 1.2 1.3 1.4	Enable & & &	Source Port 1000 1000 1000 1000	227.10.30.1 227.10.30.2 227.10.30.3 227.10.30.4	1234 1234 1234 1234 1234	UDP UDP UDP UDP UDP UDP UDP UDP	7 7 7 7	*	25 25 25 25 25	Disable Disable Disable Disable Disable Disable Disable Disable Disable Disable Disable Disable Disable Disable Disable	01:00: 01:00: 01:00: 01:00:
1.7 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	hannel 1.1 1.2 1.3 1.4 1.5	Enable Ø Ø Ø Ø	Source Port 1000 1000 1000 1000 1000	227.10.30.1 227.10.30.2 227.10.30.3 227.10.30.4 227.10.30.5	1234 1234 1234 1234 1234 1234 1234	UDP UDP UDP UDP UDP UDP UDP UDP UDP UDP UDP	7 7 7 7 7 7 7 7 7	•	25 25 25 25 25 25 25	Disable Disable Disable Disable Disable Disable Disable Disable Disable T	01:00: 01:00: 01:00: 01:00:
1.8 1000 227.10.30.8 1234 UDP • 7 • 25 Disable •	hannel 1.1 1.2 1.3 1.4 1.5 1.6	Enable Ø Ø Ø Ø O O	Source Port 1000 1000 1000 1000 1000 1000 1000	227.10.30.1 227.10.30.2 227.10.30.3 227.10.30.4 227.10.30.5 227.10.30.6	1234 1234 1234 1234 1234 1234 1234	UDP UDP UDP UDP UDP UDP UDP UDP UDP UDP UDP	7 7 7 7 7 7	* * * *	25 25 25 25 25 25 25 25	Disable Disable Disable Disable Disable Disable Disable Disable Visable	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.

1: CR2-DVBS2FTA-01			Status Biss Settings	Service Configuration IP Outp	System Operation
				Status Settings	Service Configuration
Please click "Apply" after modifying pa	rameters. Otherwise, new configura	ion can not be saved.			× Apply
[1.1] TS	*		[1.1] TS		Clear
1. CCTV 2	(11)	Original Network ID	1		Config
[1.2] TS	¢ ~	T \$ ID	1		
1. CCTV 2	(11)	NO. Service ID	Service Name	Service Provider	
		1 302 CCT	V 2	CCTV	
			OK Cancel		

TS	* *	[1.1] TS >> CCTV 2	
CTV 2	Service ID	302	
TS	Service Name	CCTV 2	
CTV 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.

[1.1] TS	* •	NIT			[1.1	1]
1. Program0	(17.1.1)					
2. Program1	(17.1.1)	NIT Network	IT Stream			(
3. Program2	(7.1.1	Original Netwo		0		
[1.2] TS[Bypass]	\checkmark	T S ID		0		
I. Program0	17.1.1			Add		
2. Program1	17.1.1	· · · · · · · · · · · · · · · · · · ·	,			
3. Program2	(17.1.1)	Original N	T\$ 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	VBS2FTA-01A		Status	Biss	Basic Setting	Service Configuration	IP Output System	
Program	Auto Scan							1
	Enable	☑ Set						
License]							
	Product ID	DF29321220001						
	Import License				Browse	pload		
	Export License	Export						
SNMP MIE	3							
	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, see the real time log messages and the security level of each message below.

_					
Ô	<u>∿</u> ±	Enable Real-time Log: ON		Filter: 👿]
	Level		Message		
	(SYS)[Resource_se		lotResource:728] ====Customer ID status:[1][0:not same,1:same]!====^M ^M		
			lotResource:730] au8CustomerNo[product]^M ^M		
	(SYS)[Resource_setSlotResource]		lotResource:732] au8MainBoardCustomerNo[product]^M ^M		
	A	Failed loading /etc/drop	pbear/dropbear_dss_host_key		
	A	Failed loading /etc/drop	pbear/dropbear_ecdsa_host_key		
	A	Failed listening on '22':	: Error listening: Address already in use		
	0	Early exit: No listening p	ports available.		
	0	[SOCKET][Resource_S	SetConnectService:625] BB set to open SSH Server!^M		
- L					-
			Tips:	🛆 Warning 🛛 🗯 Er	rror
		&			
\triangleright	Click	sto clear a	all log messages on the screen		
	Click	sto clear a	all log messages on the screen.		
	Click	-			
>		-			
A	Click Click	-			
A A		-	all log messages on the screen.		
A A		to delete	all log information.		
AA	Click	to delete	all log information.		
AAA		to delete			
AAA	Click	to delete	all log information.		
	Click Click	to delete to export	all log information.		
AAAA	Click Click	to delete to export	all log information.		

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

Level					
Level	Operation				
Error					
Warning 🕑					
Information 🖉					
Debug					
Mod	ule List				
Module Name	Operation				
SYS					
INIT					
FPGA					
GPIO					
CI					
TEMP					
\A/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

CR2-8VSB	-00	Status Basi	c Setting Service Co	onfiguration System		
Channel	Locked Status	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	RF Level	TS Analysis	Service List
1.1	Unlocked	0.000	0.000	-	۲	1
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.

R2-8VSB-00		Status Basic Setting Service Configuration Syste
Channel Standard: Off-Air		
Channel	СН	Reboot Tuner
1.1	CH2-57MHz	Reboot Apply
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

2-DVBT2CI	-00			Sta	itus Ba	sic Setting Service Co	onfiguration Syste
Channel	Frequency(KHz)	Bandwidth(MHz)		PLP ID		Reboot Tuner	
1.1	474000	8	•	0	•	Reboot	Apply
1.2	474000	8	Ŧ	0	•	Reboot	
1.3	474000	8	•	0	•	Reboot	
1.4	474000	8	-	0	-	Reboot	

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-HD	MI-R01					Status Basic Sett	ing Insertion	Output Syster
HDCP turn	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 🚯
2	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-02 🚯
				No. Midao	0.000	0.000	۲	Program-03
3	×	Unencrypted	No_Video	No_Video	0.000	0.000	•	Frogram-05 🗢

CE2-HDMI-00/R01 >Basic Setting

🗘 Advanc	ed Setting >									
Program	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	י ע	Video Bitrate	GOP Size
✓Profile	Video Aspect Rat	tio		
Audio Parameter 🔽				
Audio Encoding Format	Delay		Audio Bitrate	Volume
Service Parameter 🔽				
✓Program Name	Video PID	Audio 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	Uideo Resolution	on 🕑 Vi	deo Bitrate	GOP Size	
Profile	Uideo Aspect R	latio			
Audia Daramatan					
Audio Parameter 🗆					
Audio Encoding Format	Delay		udio Bitrate	Volume	
Service Parameter					
		1	1		
Program Name	■Video PID	Audio PID	PCR PID	PMT PID	
Provider Name					
Shelter Parameter					
		- 185 - 445	- Usinh4	Color	
□X	□Y	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

rect IP Output	Multiplexing					
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC	Destination MAC	Appl
1	۲	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	
					Status Basic Setting Insert	ion Output Syst
	ultiplexing RT	MP Output			-	tion Output Syst
HDMI-R01 IP Output N	ultiplexing RT	MP Output Destination IP Address	Destination Port	Enable Destination MAC	Destination MAC	ion Output Syst
HDMI-R01 IP Output N	ultiplexing RT		Destination Port 1234		-	
HDMI-R01	ultiplexing RT	Destination IP Address		Disable	Destination MAC	
HDMI-R01 IP Output N rogram	ultiplexing RT Enable	Destination IP Address 227.10.20.90	1234	Disable Disable	Destination MAC 01:00:5E:0A:14:5A	

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):

vance Settings 🗹			
able 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).

CE2-HD	MI-R01			Statu	s Basic Setting Insertion	Output Syste
Direct IP (Dutput	Multiplexing	RTMP Output			
Program		Program Nam	ie	Destination	Destination Setting	Apply
1	Program-0)1			1	
2	Program-0	12			1	
3	Program-0	13			1	Clear Config
4	Program-0)4			/	

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-R0	1					Status	Basic Setting Insertion	Output S
Direct IP (Dutput	Multiplexing RTMP Or	utput						
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 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!	
4		rtmp://172.16.1.254/live	live_stream3	1935	Disable 🔻	admin	admin	Connection Failed!	

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	Insertion
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		OSD
Switch:	Enab	le		
Position:	Х	0	Y	0
Size:	Width	100	Heigh	nt 100
Empty the uploaded	pictures Pic2	Pic3		ed: Pic1

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.

LOGO		QR	Code		OSE)
Switch:	Enabl	e				
Position:	X	600		Υ	0	
Size:	Width	100		Height	100	
Empty the uploaded	pictures			Image n	ot selected	
						*
⑦ Pic1	Pic2	• Pic3	• Pie	:4	Pic5	
 Pic6 	Pic7	• Pic8	• Pie	: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

CEZ-M	DMI-02						Status	Basic Setting Output S	ystem
HDCP tur	med on.								
		HDCP Encryption	Input Video Resolution	Output Video Resolution	Video Bitrate(Mbps)	Audio Bitrate(Mbps)	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Ar
Program	Signal	HDCF Encryption							
Program 1	Signal X	Unencrypted	No_Video	No_Video	0.000	0.000	0.000	0.000	

CE2-HDMI-02 >Basic Setting

Basic Par	A dynamical	Parameters										
		Parameters										
Advanc	ed Setting >											
Program	Input Source Type	Video Res	olution	Video Encoding Format	Video Bitrate(K	bps)	Video Aspect Ratio	GOP Size	Profile	Audio Encoding Forma	t	Apply
1	HDMI 👻	Auto	1	H264 -	10000	0	Auto 👻	18	High 🗸	AC3	▼ 192	2
	HDMI 👻	Auto		H264 -	10000	ด	Auto 👻	18	High -	AC3		2

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	Uideo 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
CC	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)		

E2-HDMI-02		Status Basic Setting Output Syste
asic Parameters Advanced Parameters ogram1 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	
Femporal 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	
ilters:	COMB_FILTER_ONLY	v
ime Base Calibration:	Disable	•
Frame Field Coding:	Auto	•
_ow Latency (0-1000):	100	
Dvo Delay (0-1000):	0	
Dts Delay From Pcr (0-1000):	0	
Max Video PES Size (0-1000):	2	

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

E2-HDMI-02						Status Basic Setting	Output Syst
Direct IP Output	Multiplexing						
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC		Destination MAC	Apply
		227.10.20.90	1234	Disable	•	01:00:5E:0A:14:5A	
1							

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 \checkmark . 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	HDCP turned 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	x	Unencrypted	No Video	No Video	0.000	0.000	0.000	0.000	۲	Program-2

CE2-HDMI-02C>Basic Setting

Basic Pai	rameters Advanced F	Parameters					
Advanc	ed Setting >						
rogram	Input Source Type	Video Resolution	Video Encoding Format	Video Bitrate(Kbps)	Video Aspect Ratio	GOP Size	Prc Apply
1	HDMI 👻	Auto 🥒	MPEG2 -	10000	Auto 👻	18	High
2	HDMI 👻	Auto 🥒	MPEG2	10000	Auto 👻	18	High

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	Uvideo 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

E2-HDMI-02C					Status Basic Setting Out	put Syster
Direct IP Output	Multiplexing					
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC	Destination MAC	Appl
		227.100.200.90	1234	Disable	 01:00:5E:64:C8:5A 	
1						

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

۴		
1	_	
	_	
	_	

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-HD	MI-02C	Statu	s Basic Setting	Output System
Direct IP	Output Multiplexing			
Program	Program Name	Destination	Destination Setting	Apply
1	Program-1		1	
2	Program-2		1	Clear 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 turn	ned 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	1920x1080_59.94p	1920x1080_30p	8.559	8.559	۲	Program-02
	1	Unencrypted	1920x1080_59.94p	1920x1080_30p	8.548	8.548	۲	Program-03
3				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	ced Setting V								
Video	Parameter 🗌								Apply
Vide	eo Encoding Format	Video Bitrate	Vide	o Mode	GOP Structur	re	Smooth Output		Abbit
Audio	Parameter 🔽								
Aud	dio Encoding Format	Delay	₹Aud	io Bitrate	✓Audio Samp	ling Rate	Volume		
Servic	ce Parameter 🔽								
Pro	ce Parameter 🗹 ogram Name ovider Name	Video PID	✓Aud	io PID	PCR PID		PMT PID		
✓Proi	ogram Name vvider Name					Volume(dB)		Audio PID	s
✓Proi	ogram Name ovider Name Video Encoding Format	Video Bitrate(Kbps)	Audio Encoding Format	Audio Bitrate(Kbps)	Audio Sampling		Delay(ms)	Audio PID	S Disat
Prog Prov	ogram Name ovider Name Video Encoding Format	Video Bitrate(Kbps)	Audio Encoding Format	Audio Bitrate(Kbps)	Audio Sampling	Volume(dB)	Delay(ms)	Audio PID 103 203	S Disat Disat
✓Prog Program 1	Video Encoding Format	Video Bitrate(Kbps) 3000 @ 8000 @	Audio Encoding Format MPEG1_Layer2 MPEG1_Layer2	Audio Bitrate(Kbps) 128 ▼ 128 ▼	Audio Sampling	0	Delay(ms)	103	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

E2-HDMI-06B						Status Basic Settin	g Output Syste
irect IP Output	Multiplexing						
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC		Destination MAC	Apply
1		227.10.20.80	1111	Disable	Ŧ	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	¥	01:00:5E:0A:14:5A	
4		227.10.20.90	1237	Disable	-	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.

	DMI-06B		Status Basic Setting Ou	tput Sys
Direct IP	Output Multiplexing			
Program	Program Name	Destination	Destination Setting	Apply
1	Program-01	17.Baseboard[1.1]	1	
2	Program-02		1	
3	Program-03		1	Clear Config
	Program-04		R	

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 Se							
Program	Signal	Input Video Resolution	Output Video Resolution	Video Bitrate(Mbps)	Audio Bitrate(Mbps)	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	
1	1	1920x1080_50i	1920×1080_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 Se	tting Output	System
Basic Parameters Ad	Ivanced Parameters				
Advanced Setting >					Apply
Program	Video Encoding Format		Video Bitrate(Kbps)		
1	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.

Base: Parameters Video Parameter Video Encoding Format Video Resolution Video Bitrate Video Encoding Format Odor Size Closed GOP Closed Caption Odor Size Closed GOP Closed Caption Odor Size Closed GOP Closed Caption Closed Caption Closed Caption Closed Caption Audio Parameter Audio Source Audio Encoding Format AAudio Encoding Format AAudio Source Audio Encoding Format AAudio Pinameter Video Ritio Service Parameter Video Ritio Program Name Provider Name Provider Name	CE2-SDI-01			Status Basic S	etting Output System
Video Parameter Video Encoding Format Video Resolution ©Video Encoding Format GOP Size ©GOP Structure GOP Size ©Video Aspect Ratio Smooth Output Audio Parameter Audio Source Audio Encoding Format Audio Source Audio Encoding Format Service Parameter Service Parameter Video PID Audio PID	Basic Parameters Advanced F	arameters			
Video Parameter Video Encoding Format Video Resolution Video Encoding Format GOP Size GOP Structure GOP Size Profile Closed GOP Audio Parameter Video Encoding Format Audio Source Audio Encoding Format Audio Source Audio Encoding Format Service Parameter Service Parameter Video PID Audio PID	Advanced Setting 🗸				Apply
GOP Structure GOP Size Closed GOP Closed Caption Profile Level Video Aspect Ratio Smooth Output Audio Parameter	Video Parameter 🗌				
Profile Level Video Aspect Ratio Smooth Output Audio Parameter Audio Source Audio Encoding Format AAC Format Audio Bitrate Volume Audio Encoding Format AAC Format Audio Bitrate Service Parameter Audio PID PCR PID PMT PID	Video Encoding Format	Video Resolution	Video Bitrate	Video Mode	
Audio Parameter Audio Source Audio Encoding Format AAC Format Audio Bitrate Volume Audio Pito Audio Pito Audio Pito	GOP Structure	GOP Size	Closed GOP	Closed Caption	
Audio Source Audio Encoding Format AAC Format Audio Bitrate Volume Audio Pin Audio Pin Audio Pin	Profile	Level	□Video Aspect Ratio	Smooth Output	
Volume Image: Constraint of the state of th	Audio Parameter 🗌				
Service Parameter Audio PID PCR PID PMT PID	Audio Source	Audio Encoding Format	AAC Format	Audio Bitrate	
Video PID Audio PID PCR PID PMT PID	Volume				
	Service Parameter				
Program Name Provider Name	Video PID	Audio PID	PCR PID	DPMT PID	
	Program Name	Provider Name			
Program Video Encoding Format Video Bitrate(Kbps)	Program	Video Encoding Format		Video Bitrate(Kbps)	
1 MPEG2 V 10000			▼ 10000		0
2 MPEG2	2	MPEG2			

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 5
Basic Parameters	
Program1 Program2	
Encoding Parameters	*
Stream Output Parameters	▲ <u>_</u>
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		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		
	Export License	Export				
	В					
	Export MIB	Export				
Logs						
	Open					
Others						
	Reboot	Reset to Defaults				

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	B2-00				Status	Basic Setting	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.

			Status Basic Setting	
dvanced Setting >				
Program	Video Encoding Format		Video Bitrate	
1	H264	•	5000	Ap
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

CEZ-HI	OMI-R05	5			()	Status Basic Setting I	nsertion Out	put System
HDCP tur	ned off.							×
Program	Signal	HDCP Encryption	Input Video Resolution	Output Video Resolution	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Program Nam
	1	Unencrypted	1920×1080_50i	1920x1080_25p	8.938	8.938	۲	Program-01
- a - j								
2	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-02
2	×	Unencrypted Unencrypted	No_Video No_Video	No_Video No_Video	0.000	0.000	•	Program-02 0 Program-03 0

CE2-HDMI-R05 >Basic Setting

Advance	ced Setting >							
Program	Video Encoding Format	Video Bitrate(Kbps)	Video Resolution	GOP Size	Profile	Video Aspect Ratio	Audio Encoding Format	0
1	H.264 👻	8000	Auto 🖋	25	Main 🔻	Automatic -	MPEG1_Layer2	Apply
2	(H.264 👻	8000	Auto 🥒	25	Main 👻	Automatic -	MPEG1_Layer2	
3	H.264 -	8000	Auto 🖌	25	Main 👻	Automatic	MPEG1_Layer2	
4	H.264 -	8000	Auto 🥖	25	Main 👻	Automatic 👻	MPEG1_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	Syster
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 , 16x9 (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

E2-HDMI-R0	5				Statu	s Basic Setting Insertion	Output Syste
Direct IP Output	Multiplexing	l.					
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC		Destination MAC	Apply
1		227.10.20.90	1234	Disable	• 00:0	00:00:00:00	
2		227.10.20.90	1235	Disable	• 00:0	00:00:00:00	
3		227.10.20.90	1236	Disable	• 00:0	0:00:00:00	
4		227.10.20.90	1237	Disable	- 00:0	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.

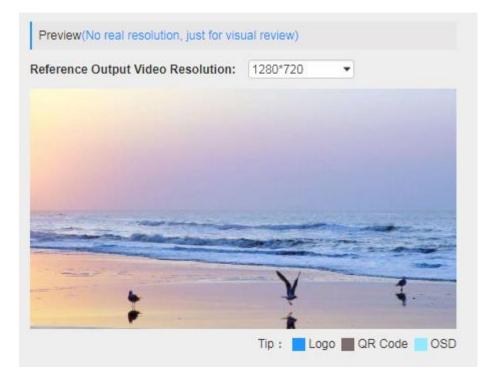
- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional cases where the unicast stream cannot be received with unicast IP addresses You 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:	Black				
Background Transparency:	0				
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

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

CE2-HDMI-R05					Status	Basic Setting	Insertion	Output	System
Program1 2 3 4									
LOGO		QR Code		OSD	Preview(No real resolution, just for visu	al review)			Apply
Switch:	Enable				Reference Output Video Resolution:	1280*720	•		
Position:	X 600		Y 0						
Size:	Width 100		Height 100						
Empty the uploaded	l pictures	In	nage not selected						
Pic1	Pic2	Pic3	• Pic4	• Pic5	т	ip: 🚺 Logo 🚺 🤇	QR Code 🧧 🤇	DSD	

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-R05A >Output

Output configuration please refer to CR2-DVBC module.

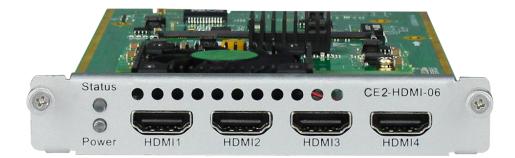
CE2-HDMI-R05A > System

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	0MI-06					Status Basic Setting	Insertion (Dutput System
HDCP tur	rned 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 🕄
	×	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 Bitr	ate(Kbps)			\frown
1	H.264	-	12000		0		Apply
2	H.264 H.265		12000		0		
3	H.264	*	12000		0		
4	H.264	•	12000		0		
DCP Test Mode : ON	O HDCP test mode is for test purposes only. Please make su	re 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 Inserti	ion Output Syster
Advanced Setting V					
Video Parameter 🗌					Apply
✓Video Encoding Format	Video Bitrate	Uideo Mode	GOP Structure	Smooth Output	
Audio Parameter 🗹					
✓Audio Encoding Format	✓Delay	Audio Bitrate	✓Audio Sampling Rate	Volume	
Service Parameter 🗹					
✓Program Name	Video PID	✓Audio PID	PCR 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 , 16x9 (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

E2-HDMI-06					Status Basic Setting Inser	tion Output S
Direct IP Output	Multiplexing					
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC	Destination MAC	
1	V	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	OMI-06	Status	Basic Setting Insertion Output	Syster
Direct IP	Output Multiplexing			
Program	Program Name	Destination	Destination Setting	Apply
1	Program-01	15.[1.1]	-	C
2	Program-02		1	Clear
3	Program-03		/	Confi
4	Program-04		<i>i</i>	

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.

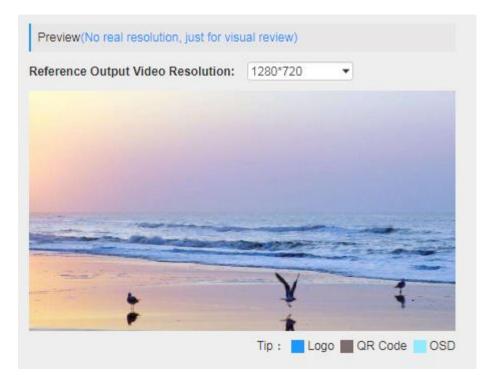
Check Multiplex on the channel you want to output to. You can output multiple services to one channel or output one service to multiple channels.

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 Code	OSD
Enable:	Yes	◎ No	
Position:	X	0	Y 0
Horizontal Pixel:	960	[0-!	960]
Font Color:	White	•	
Font Size:	20		
Subtitle:	Welcon	ne to Encoder	
	[0~1024	4]	

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 ○ 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		Statu	s Basic Setting	Insertion	Output	Syst
icense						
Product ID	EB13146190100					
Import License		Browse	Upload			
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.

	AMA-00				31	tatus Basic Setting Output	PSIP Syste
F Level:	36	(dBmV () dBuV () PSI/S	l Interval(ms): 100				
Channel	Enable	QAM Mode	Frequency(KHz)	Bandwidth(MHz)	Constellation	SymbolRate(KBaud)	
1.1		ANNEX A	200000	8 🗸	QAM64 👻	6875	Apply
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.

Network				Import	Export Clea
Fag: 0x 40	D	Network Name: 0	Ac	dd	
	Tag	Data	Length	Operation	
	010	0	1	×	
Stream	0x40	0	1	•	
Stream Driginal Ne	etwork ID: 0	TS ID:		Add	
			0		

Logical Channel 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 Li	ist Add			
TS	Service ID	Service Na	ame	Service T	ype		
1.1	32	Program	3	Digital Radio Sour	nd Sen ×		
1.2	32	Program	3	Digital Radio Sour	nd Sen ×		
Sym	Satellite Frequency(MHz) Symbol Rate(Ksymbol/s) Polarization			00 r-horizontal ▼	[4800 [0,99	00,858000] 9000] rameters \	
Advanced Parameters V Terrestrial Delivery System Centre Frequency 1 [1, 4294967295](10Hz) Bandwidth 8MHz V							
				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
License		
Product ID		
Import License		Browse Upload
Export License	Export	
SNMP MIB		
Export MIB	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**.

5.3.2 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

			Status	Basic Setting	Output	Syster
F Level:	40	(dBmV dBuV) PSI/SI Interval(ms); 100 Channel Standard: OFF-AIR	•			
Channel	Enable	Frequency				
1.1		CH2-57MHz			•	Appl
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.

		Status 💮 System Settings ۞ IP Input ۞ IP Output A agent
System Settings		Network Time System Password NMS Register Advance Settings SNMF
	Standard	ATSC 👻 🔮
	Language	English
	Authorized Use Time	Stay With First Level Authorized Time Never expires
	Destination Module Number	4 🗸 🗸
	CA Descriptor Filter	Disable 👻 🔮
	PAT Sync Update	Disable 👻 🔮
	VLAN Enable	Disable 👻 🔮

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: 4	45	(dBmV () dBuV () PSI/SI I	Interval(ms): 100 Ch	nannel Standard: STD 🔹			
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	 Image: A start of the start of	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	elect Service
		Service ID LCN Visible Service Flag	•
Tag: 0x 40 Network Name: 0 Add Tag Data Length Or NO Data No Data Original Network ID: 0 TS ID: 0 Add	peration		
ONID TS ID Descriptor O 0 0 × +Des	Cable Delivery System		
	Service List	OK Close	

	Servio	ce List			LCN	
TS	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	×
1.1	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 Cable Delivery System, Terrestrial Delivery System, Satellite Delivery system, and Service List.

Frequency(KHz)	SymbolRate(Ksymb	Constellation
200000	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

CW2-D	TMB-03							Status	Basic Setting	Output	System
atch Settin	ig 🗸										
F Level(dl	BuV): 45	(dBmV	● dBuV ○) PSI/SI Interv	val((ms): 100						\cap
Channel	Enable	Frequency(KHz)	Constellation Mode		Frame Head Mode		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	*	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	¥	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.

Add Original TS ID Descriptor Operation 0 0 X + Descriptor Logical Channel Number Logical Channel Number Terrestrial Delivery System Logical Channel Number V1 □ V2 Add Service ID Service Name LCN [0, 1023] Visible Service Flag 2010 SUPERTV 1 Visible •	Original Ne	WORK ID	0			
0 0 X + Description Logical Channel Number Terrestrial Delivery System Logical Channel Number V1 V1 V2 Add Service ID Service Name LCN [0, 1023] Visible Service Flag 0	1310					
Logical Channel Number V1 OV2 Add Service ID Service Name LCN [0, 1023] Visible Service Flag	Original .	. TSID	Descriptor			
Logical Channel Number V1 V2 Add Service ID Service Name LCN [0, 1023] Visible Service Flag O	0	0		• TUes		er
						-
	Service If		Hume Lon			
			RTV 1	1	visible 🔻	L U

	Servio	e List			LCN	
TS	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 💌	×
1.1	3	Program-03	3	3	Visible	×
1.1	3	Flogram-05				

- 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

Terrestria	l Deliver	y 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		Brow	se Up	load		
	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 Settin	g 🗸						
F Level(dE	BuV): 105	PSI/SI Interval(ms):	100				\bigcirc
Channel	Enable	Frequency(KHz)	QAM Mode		SymbolRate(KBaud)	RF Level Gain (dBuV)	Apply
1.1	✓	200000	QAM64	• 6	6875	0	
1.2		208000	QAM64	• 6	6875	0	
1.3		216000	QAM64	• 6	6875	0	
1.4		224000	QAM64	- 6	6875	0	
1.5		232000	QAM64	• 6	6875	0	
1.6		240000	QAM64	- 6	6875	0	
1.7		248000	QAM64	• 6	\$875	0	
1.8		256000	QAM64	• 6	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		
NIT Netwo]		LCN	Select Service
TS ID		0		Clear Config	Service ID LCN Visible	Service Flag 🔰 🟮
		Add				
Origin	TS ID	Descriptor	Operation			
0	0	1 tag:0x83 🗙 🗹 2 tag:0x44 🗙 🗹	LCN Descri	iptor		
0	1	1 tag:0x83 🗙 🗭 2 tag:0x44 🗙 🗭	* +De Cable Desc	criptor	\Rightarrow	
0	2	1 tag:0x83 X 🗹 2 tag:0x44 X 🗹	× +Descriptor	100		
0	3	1 tag:0x83 🗙 🗹 2 tag:0x44 🗶 🕅	× +Descriptor	•	OK Close	

	Service	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	4	66	Maible	
1.3	2	td HD Phx Chinese Cha		20	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.

5.3.6 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

							0	atus Basic Setting Or	utput Sys
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 💌	2K	▼ 1/4	▼ 64QAM	▼ 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).

	Cable	Descriptor	Cottingo	0
Frequency(H	KHz) SymbolR	ate(Ksymb	Constell	ation
200000	6875	6875		-
	ок	Close		

• 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 🛛 🗙 🗹	× +Deradiated			
U	U	2 tag:0x44 🛛 🗙 🗹	LCN Descri	ptor		
		1 tag:0x83 🛛 🗙 🗹	× +De Cable Desci	rintor		
0	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 Serv	ice Flag	0	
1.1	30	GOLDEN	3	Visible	٠		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-ISD	BT-03					Status	Basic Setting	Output	Syster
Temperature	e: 33°C (91.4°F)	Tip: The m	odule will automatically power	off when the temperatu	re reaches or ex	ceeds 74 degre	es Celsius(165.2	degrees Fa	hrenheil
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	i =				
1.8	0.000	0.000	Normal	۲	:				

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

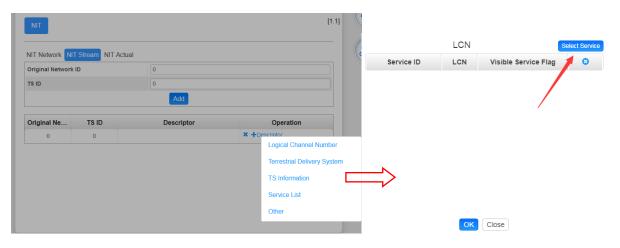
Name	Range	Name	Range
Bandwidth(MHZ)	6M	RF level	25~45dBmV/85~105dB μ V
Frequency (KHz)	48000~862000	FFT Mode	2К
GI Mode	1/4, 1/8, 1/16, 1/32	RF Level Gain(dB)	45~55
QAM Mode	QPSK	Convolutional	1/2, 2/3, 3/4, 5/6, 7/8
	16QAM	Coding	
	64QAM		

CM2-ISDBT-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 🗸
0	K Close

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

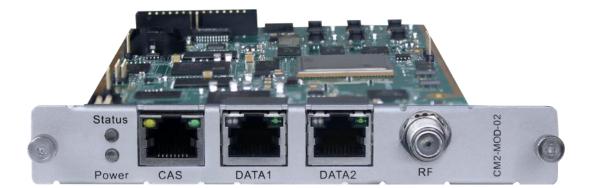


	Servio	e List	_				
тs	Service ID	Service Name	6		LCN		Select Servic
1.1	1	Program-01	6	Ormited ID	1.011	Visible Comise Flore	•
1.1	2	Program-02		Service ID	LCN	Visible Service Flag	•
1.1	3	Program-03	>		66	Visible	- ×

• 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

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 💮 O	utput 📔 🏠 System Setting 📔 🧟 agent 🗸
Input						Status IP Se	etting IGMP Setting Service Configuration
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	٠	0.000	0.000	۲	:	
1.2	0.0.0.0 : 0	٠	0.000	0.000	۲	III	
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	٠	0.000	0.000	۲	:	
1.7	0.0.0.0 : 0	٠	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	٠	0.000	0.000	۲	:	
1.11	0.0.0.0 : 0		0.000	0.000	۲	:=	

nput						Status IP Setti	ng IGMP Setting	Service Configuratio
lotal 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	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	•	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		
1.6	0.0.0.0 : 0	•	0.000	0.000	۲	i =		
1.7	0.0.0.0 : 0	٠	0.000	0.000	۲	:=		
1.8	0.0.0.0 : 0	•	0.000	0.000	۲	:=		
1.9	0.0.0.0 : 0	٠	0.000	0.000	۲			
1.10	0.0.0.0 : 0	•	0.000	0.000	۲	12		
1.11	0.0.0.0 : 0	•	0.000	0.000	۲			

Click the eye icon eye icon eye icon eye icon 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 Set	ting IGMP Setting	Service Configuration
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	i =		
1.5	0.0.0.0 : 0	•	0.000	0.000	۲			
1.6	0.0.0.0 : 0	٠	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	٠	0.000	0.000	۲			
1.10	0.0.0.0 : 0	٠	0.000	0.000	۲	III.		
1.11	0.0.0.0 : 0		0.000	0.000	۲			

hannel 1.1 TS Analysis					Reset Counter
				Search	Q
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
		١	lo 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		
1.3	227.40.50.90 : 1234	18.446	19.750	۲		
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		
1.0	0000.0	0.000	0.000	۲	=	*
Channel : 1.1						
# Service						
1 [3]						
2 [4]						
3 [5]						

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

PMT 48(0x30) 0.011	ort 1 Port
PMT 48(0x30) 0.011 Video(MPEG2) 49(0x31) 27.219 fe(Mbps) TS Analysis Servi 1.1 227.40.50.88 : 1234 49(0x31) 52(0x34) 0.084 0.0 0	ce List
Channel IP Address : Port Video(MPEG2) 49(0x31) 27.219 te(Mbps) TS Analysis Servi 1.1 227.40.50.88 : 1234 Audio(AC3) 52(0x34) 0.767 00 Image: Constant of the servi Image: Constant of th	
Audio(AC3) 53(0x35) 0.384 00 0 0 1.2 227.40.50.89 : 1234 00 0 0 0 0 1.3 227.40.50.90 : 1234 Close 11 0 11 1.4 227.40.50.91 : 1234 00 0 0 11 1.5 227.40.50.92 : 1234 58 0 11	
1.2 227.40.50.89: 1234 00 Image: Close of the second secon	
1.3 227,40,50,90,1234 11 0 11 1.4 227,40,50,91 : 1234 30 0 11 1.5 227,40,50,92 : 1234 58 0 11	
1.5 227.40.50.92 : 1234 58 👁 🔚	
1.6 0.0.0.0 0 👁 🔳	
1.7 0.0.0	
1.8 0.0.0 0.000 0.000 👁 🔚	
10. 0.000 0.000 m III	

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	etting Mul	tiplexing Scrambling	System
						IP Input	Modulation Output	IP Output
Total Bitrat	e: 253.430 Mbps							
Temperatu	re: 43°C (109.4°F)	Tin: The m	odule will stop RF output	when the temperature	reaches or exceed	ds 74 degree	s Celsius(165 2 degrees	Eabrenheit)
remperatu	16. 45 C (103.4 F)	np. men		when the temperature		is re degree.		Famerinen
a 1					And the life			
Channel	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List			
1.5	0.406	50.686	Normal	۲				
1.6	0.000	0.000	Normal	۲	≣ .			
1.7	0.000	0.000	Normal	۲	:=			
1.8	0.000	0.000	Normal	۲	:=			
1.9	0.000	0.000	Normal	۲				
1.10	0.000	0.000	Normal	۲	:=			
1.11	0.000	0.000	Normal	۲				
1.12	0.000	0.000	Normal	۲	i 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	i =			
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	KI 1					

Channel	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List			Channel : 1.1	
1.19	0.000	0.000	Normal				#	Service	
1.20	0.000	0.000	Normal	۲			1	[3]	
1.21	0.000	0.000	Normal	۲					
1.22	0.000	0.000	Normal	۲	I		2	[4]	
1.23	0.000	0.000	Normal	۲			3	[5]	
1.24	0.000	0.000	Normal	۲	i =				
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				
1.29	0.000	0.000	Normal	۲					
1.30	0.000	0.000	Normal	۲	=				
1.31	0.000	0.000	Normal	۲					
1.32	0.000	0.000	Normal	۲					
Channel 1	.1 TS Analysis				Search			Reset Count	ter (
	PID E	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	9		Service	
	0x0(0)	0.015	0.039	84	PAT				
	0x11(17)	0.015	0.039	37	SDT, E	BAT			
	0x30(48)	0.015	0.039	99	PMT				
	0x31(49)	0.000	0.000	127	PCR, V				
	0x34(52)	0.000	0.000	127	Audio				
	0x35(53)	0.000	0.000	57	Audio	2			

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 Multip	blexing Scramb	ling S
							IP Input	Modulation Outpu	ut IP O
								P	Port 1 F
Estal Bitrata :	304.172 Mbps								
otal 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	:=			
1.3	224.20.20.3 : 1234	0.123	50.692	Normal	۲				
1.4	224.20.20.4 : 1234	0.213	50.692	Normal	۲				
1.5	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	:=			

						Status Basic Se	etting Multiplexing	Scrambling	System
							IP Input Modula	ation Output	IP Output
								Port 1	Port 2
Total Bitrate:	304.178 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	0.120	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	12			
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	12			
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			

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 Scrambl
							IP In	put Modulation Outpu
								P
atch Setting	g 🗸							
< 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	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 Out	put IF	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 👻				\frown
Protoce	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								
< 1 Channel	2 3 4 Enable	4 5 6 7 8 9 Destination IP Add			TS Packets Per IP	VLAN Enable		VIAN ID		
			10 11 12 13	3 14 15 16 >			• 1	VIAN ID		
Channel	Enable	Destination IP Add	10 11 12 13 Destination Port	3 14 15 16 > Protocol		Disable	 ■ 1 ■ 	VIAN ID		
Channel 1.1	Enable <i></i>	Destination IP Add 227.40.50.88	10 11 12 13 Destination Port 1234	3 14 15 16 > Protocol UDP	7 •	Disable Disable		VIAN ID		
Channel 1.1 1.2	Enable	Destination IP Add 227.40.50.88 227.40.50.89	10 11 12 13 Destination Port 1234 1234	3 14 15 16 > Protocol UDP ▼ UDP ▼	7 • 7 •	Disable Disable Disable	• 1	VIAN ID		
Channel 1.1 1.2 1.3	Enable e e e	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 1234 1234	3 14 15 16 > Protocol UDP ▼ UDP ▼ UDP ▼	7 • 7 • 7 •	Disable Disable Disable Disable	• 1 • 1	VIAN ID		
Channel 1.1 1.2 1.3 1.4	Enable © © © ©	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 1234 1234 1234 1234	3 14 15 16 > Protocol UDP ▼ UDP ▼ UDP ▼ UDP ▼	7 • 7 • 7 • 7 • 7 •	Disable Disable Disable Disable Disable	 ■ 1 ■ 1 ■ 1 ■ 1 	VIAN ID		

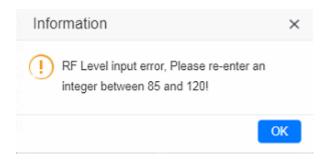
Modulation Output-Parameter Setting>On this page, you can enable channels as you need and input the Frequency (KHz), QAM Mode, Symbol Rate (KBaud) and RF Level Gain (dBmV) to have an output.

				Status	Basic Setting Multip	elexing Scrambling Sys
					IP Input	Modulation Output IP Ou
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 Ga	in (dB)
1.1		200000	QAM256	6875	0	
1.2		208000	QAM256	6875	0	
1.3		216000	QAM256	6875	0	
1.4		224000	QAM256	6875	0	
1.5		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	

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 Out	tput IP Out
atch Settin	ng ^					
Select A	.II		Start Channel-End Channel	1 - 32		App
Enable	le	Disable 💌	Start Frequency	48000		L
Band	width	7 -	QAM Mode	QAM32 👻		
Symbol	olRate	6875				
			Batch Setting			-
	BmV): 105	1	SI/SI Interval(ms): 100	SymbolRate(KBaud)	RE Level Gain (dBmV)	-
	BmV): 105 Enable	5 P: Frequency(KHz) 474000	SI/SI Interval(ms): 100	SymbolRate(KBaud)	RF Level Gain (dBmV)	-
Channel	Enable	Frequency(KHz)	SI/SI Interval(ms): 100 QAM Mode		RF Level Gain (dBmV)	
Channel	Enable	Frequency(KHz)	SI/SI Interval(ms): 100 QAM Mode QAM64	• 6875		-
Channel 1.1 1.2	Enable e	Frequency(KHz) 474000 208000	SI/SI Interval(ms): 100 QAM Mode QAM64 QAM64	 6875 6875 		
Channel 1.1 1.2 1.3	Enable © ©	Frequency(KHz) (474000 (208000 (216000)	SI/SI Interval(ms): 100 QAM Mode QAM64 QAM64 QAM64	 6875 6875 6875 6875 		
Channel 1.1 1.2 1.3 1.4	Enable e e e	Frequency(KHz) 474000 208000 216000 224000	SI/SI Interval(ms): 100 QAM Mode QAM64 QAM64 QAM64 QAM64	 6875 6875 6875 6875 6875 		

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 Se	tting Service Config
tch Setting	`										
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 Ler	ngth	Bitrate(Enable Destination MAC	Destination MAC
1.1		1000	227.10.20.2	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.2		1000	227.10.20.3	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.3		1000	227.10.20.4	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.4		1000	227.10.20.5	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.5		1000	227.10.20.6	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.6		1000	227.10.20.7	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.7		1000	227.10.20.8	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.8		1000	227.10.20.9	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.9		1000	227.10.20.10	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.10		1000	227.10.20.11	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.11		1000	227.10.20.12	1234	UDP	•	7	•	15	Disable	00:00:00:00:00:00
1.12		1000	227.10.20.13	1234	UDP	-	7	•	15	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 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 👻		
Prot	ocol	UDP	TS Packets Per IF	Packet 7	Ŧ			
🗆 Bitra	ate	25	Enable Destination	n MAC Dis	able 👻	AA:BB:CC:DD:EE:		
			Batch Set	ting				
			Batch Set	ting				
< 1	>		Batch Set	ting				
< 1 Channel	> Enable	Source Port	Batch Set	ting Destination Port	Protocol	TS Packets Per IP Packet	Enable Destination MAC	
		Source Port			Protocol		Enable Destination MAC	
Channel	Enable		Destination IP Address	Destination Port		7		
Channel 1.1	Enable @	1000	Destination IP Address	Destination Port	UDP -	7 • 7 •	Disable	
Channel 1.1 1.2	Enable	1000	Destination IP Address 224.20.20.1 224.20.20.2	Destination Port	UDP -		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	t Channel																
1	2 3	4 5	6	7 8	9	10 11	12 13	14	15	16							
17 1	18 19	20 21	22	23 24	25	26 27	28 29	30	31	32							Apply
Source	Service	Configu	ration I	PSIP PII	D Transmissi	on											
Port 1	Port 2	2															Clear Config
1 - 32	33 - 6	4 65	5 - 96	97 - 128	129 - 160	161 - 192	193 - 224	225	- 256								
257 - 28	38 289 - 3	20 32	- 352	353 - 384	385 - 416	417 - 448	449 - 480	481	- 512								
Please	tick the inp	ut chanr	el to get	the source	of the prog	am (Select All										
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	1.2	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	
Scanning	g Time(ms):	7000		s	SI Search Ti	ne(ms):	5000			Set							
			Source				MM Filter		RF Ou	tput[1] 20	0000KHz	6875KBau	ıd		[0.1	35/50.686M]	
						a				Sourc	e		Service	Name		8	
	[1.1] 239.19 [257] ST			т		S	Bypass		1	1.1				ORTS FIRST		×	
	[258] ST. [259] NE								2	1.1			[258] STAR \$ [259] NEWS			×	
									0	1.1			[500] MENAG	2 TO INDIM		~	

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	itus Bas	sic Setting	Multiplex	ing Scram
Output	Channel														
1 2	2 3	4 5	6 7	7 8	9	10 11	12 13	14 1	5 16						
17 1	8 19 3	20 21	22 2	3 24	25 2	26 27	28 29	30 3	1 32						
Source	Service	Configura	ition PS	SIP PID	Transmissi	on									
Port 1	Port 2														
1 - 32	33 - 64	65	- 96 97	7 - 128 ·	129 - 160	161 - 192	193 - 224	225 - 2	56						
257 - 28					385 - 416	417 - 448	449 - 480	481 - 5							
	ick the inpu		-				Select All							-	
✓ 1.1	_	□ 1.3 □ 1.19	□ 1.4 □ 1.20	□ 1.5 □ 1.21	□ 1.6 □ 1.22	1.71.23	□ 1.8 □ 1.24	1.91.25	1.10	□ 1.11 □ 1.27	□ 1.12 □ 1.28	□ 1.13 □ 1.29	□ 1.14 □ 1.30	□ 1.15 □ 1.31	□ 1.16 □ 1.32
] 1.17	1.18	L 1.19	1.20	1.21	1.22	1.23	1.24	1.25	1.20	1.21	1.28	1.29	1.30	1.31	L 1.32
canning	Time(ms):	7000		SI	Search Ti	me(ms): 50	000		Set						
			Source				MM Filter	RF	Output[1] 2	00000KHz	6875KBau	ıd		[0.1	35/50.686M]
						a			Source	ce		Service	Name		8
	1.1] 239.192] [257] STA					Ç	Bypass	1	1.1				ORTS FIRST		×
-	🚡 [258] STA	R SPOR	TS 2					2				[258] STAR			×
- 🗸) [259] NE	VS 18 INI	JIA					3	1.1			[259] NEWS	S TO 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.

Source	ECM/EMM Filter		RF Ou	tput[1] 474000KHz 6875KBaud	
			Source	Service Name	8
I.4] 227.40.50.91:1234 □ [1] LipSync_1080i	🗇 🗆 Bypass	1	1.1	[3]	×
	a a a	2	1.1	[4]	×
[1.1] 227.40.50.88:1234 [-] [3]	🗯 🗆 Bypass	3	1.1	[5]	×
Image: [3] Image: [4]		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.

Source	ECM/EMM Filter	RF Output[1] 474000KHz 6875KBaud			
		[Bypass]Source	8		
■ [1.4] 227.40.50.91:1234 □] [1] LipSync_1080i	💭 🗹 Bypass	[1.4] 227.40.50.91:1234	×		
■ [1.1] 227.40.50.88:1234 □ [3] □ [4] □ [5]	🗢 🗆 Bypass				

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.

	Apply
7 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	Apply
	Apply
purce Service Configuration PSIP PID Transmission	
	Clear
	Config
ick "Apply" after modifying your parameters to save the configuration.	×
Output Edits NIT BAT	
Output Edits NT BAT	
Output EditTS NT BAT	
Source Service Name	
Source Service Name 1 1.1 Image: Service	
Source Service Name 1 1.1 / [257]STAR SPORTS FIRST 2 1.1 / [258]STAR SPORTS 2	
Source Service Name 1 1.1 / [257]STAR SPORTS FIRST 2 1.1 / [258]STAR SPORTS 2 3 1.1 / [259]NEWS 18 INDIA	

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.

			Sync_1080i
Service Name		Original Value	Value
13]	Service ID	1	1
14]	Service Nan	ne	LipSync_1080i
	Service Prov	vider	Harmonic
	PCR PID	512	512
	PMT PID	256	256
	Video(H264)	513	513
	Audio	4112	4112
	Private Data	AC3 4114	4114
			Cancel
	 [3] [4] [5] 	↓ [3] Service ID ↓ [4] Service Nan ↓ [5] Service Pro ▶ [1]LipSync 1080i PCR PID PMT PID Video(H264) Audio Video(H264)	▲ [3] Service ID 1 ▲ [4] Service Name ▲ [1]LipSync 1080i Service Provider ▶ [1]LipSync 1080i PCR PID 512 ▶ PMT PID 256 Video(H264) 513 Audio 4112 Private Data/AC3 4114

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 BA	NIT Network NIT S	tream NIT Other		
	Source	Service Name	Tag(Hex)	40		
1	1.1	💉 [3]Program-1	Tag(Hex)	40		
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 B								
Source	Service Name			am NIT Other					
1.1	[3]Program-1	Original Net	work ID	2					
1.1	✓ [4]Program-2	TS ID		2					
1.1	/ [5]bbPBR		Add						
1.4	🖍 [1]LipSync_1080i								
		Original	TS ID	Descriptor	Operation				
				1 tag:0x44 🛛 🗙 🗹					
		1	1	2 tag:0x83 🛛 🗶 🗹	× +Descriptor				
		2	2		LCN 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.

riease	спск Арріу апег	modifying parameters. Otherwise, ne	w conliguration can n	ot be saved.		
		Output	EditTS NIT BAT			
	Source	Service Name		NIT Network NIT Stream	1234	
1	1.1	💉 [3]Program-1		INCLAYOF K 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	
S	Source	Service Name		Bouquet Id	T	
	1.1	/ [3]Program-1		Bouquet Name		
	1.1	/ [4]Program-2		Bouquet nume		
	1.1	/ [5]bbPBR			Add	
	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.

utput Channel											
2 3 4	5 6	7	8	9	10	11	12	13	14		15
17 18 19 20	21 22	23	24	25	26	27	28	29	30	3	1
Source Service Co	nfiguration	SI Tab	ole Set	ting F	ID Trar	nsmiss	ion				
	0	utput [1	.1]								
			C	AT Share	d						
SDT Insert			S	DT Share	d						
☑TDT Insert				DT Share	d						
TOT Insert				OT Share	d						
BAT Insert			B	AT Share	d						
NIT Insert				IT Share	ł						
PMT Insert											
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						
	6 7 8 9 10 22 23 24 25 26 a SI Table Setting PID Tra					
Input	Input PID No Data	Output PID	Delete	Input Input PID	1.1	Clear Config
				Output PID	32 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.

1-QAMI	5-02				Status	Basic Setting Multiple	exing S
						Ne	twork 9
Port	IP Address	Subnet Mask	Gateway	MAC Address	Link Speed	Link Status	G
NMS	192.168.1.11	255.255.255.0	192.168.1.254	A0:69:86:06:38:2F			U U
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	
DATA2	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		Status	Basic Setting	Multiplexing	System
				Network	Setting
Program Auto Scan					
Enable	Set				
Clear all channel configuration					
	Clear				
Configuration					
Import Configuration		Browse	Upload		
Export Configuration	Export				
License					
Product ID	DF30999990036				
Import License		Browse	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	2								Status	Bas	ic Setting	Multiplexing	Scrambling	System
														Network	License
Back	<u>\$</u>	Ŧ	Enable R	Real-time Log	: ON]								Filte	er: 🝸
-	Level							No Data	Messag	je					_
											Tips:	Debug	lnformatio	on 🛆 Warning	C Error
	Click		Santa €	o clear	all lo	g mess	sages	on the	scree	n.					

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

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

Le	vel
Level	Operation
Error	
Warning	
Information	
Debug	
Modu	le List
Module Name	Operation
SYS	
PARAMS	
UPGRADE	 Image: A start of the start of
TSPROCESS	
SIPROCESS	 Image: A start of the start of
LICENSE	

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

CMP201D User Guide

				IP Input	Modulation Output IP O
					Port 1 P
work Port Bitrate: 0.0	00 Mbps Total TS Bitrate: 0.000 I	Лbps			
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	E
1.4	239.192.0.205 : 10000	0.000	0.000	۲	E
1.5	0.0.0.0 : 0	0.000	0.000	۲	
1.6	0.0.0.0 : 0	0.000	0.000	۲	E
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
	0.0.0.0.	0.000	0.000		· · ·
I-QAMA-R02	0000.0	0.000	0.000	Status Basic Se	
	0000.0	0.000	0.000		
	0000.0	0.000	0.000		tting Multiplexing Sys
I-QAMA-R02	00 Mbps Total TS Bitrate : 0.000 M		0.000		tting Multiplexing Sys Modulation Output IP Ou
I-QAMA-R02			Total Bitrate(Mbps)		tting Multiplexing Sys Modulation Output IP Ou
I-QAMA-R02	00 Mbps Total TS Bitrate : 0.000 M	1bps		IP Input	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po
I-QAMA-R02 work Port Bitrate : 0.0 Channel	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port	1bps Effective Bitrate(Mbps)	Total Bitrate(Mbps)	IP Input	tting Multiplexing Sys Modulation Output IP Ou Port 1 Pr Service List
I-QAMA-R02 work Port Bitrate : 0.0 Channel 1.1	00 Mbps Total TS Bitrate : 0.000 M IP Address : Port 239.192.10.200 : 10000	Note: The Strate (Mbps) 0.000	Total Bitrate(Mbps) 0.000	IP Input TS Analysis TS Analysis	tting Multiplexing Sys Modulation Output IP Ou Port 1 Pr Service List III
I-QAMA-R02 work Port Bitrate : 0.0 Channel 1.1 1.2	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	IP Input TS Analysis ©	tting Multiplexing Sys Modulation Output IP Ou Port 1 P Service List
I-QAMA-R02 work Port Bitrate : 0.0 Channel 1.1 1.2 1.3	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	Total Bitrate(Mbps) 0.000 0.000 0.000 0.000	IP Input TS Analysis © ©	tting Multiplexing Sys Modulation Output IP Ou Port 1 Pu Service List
I-QAMA-R02	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	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 0.000 0.000 0.000 0.000 0.000	IP Input TS Analysis © © ©	tting Multiplexing Sys Modulation Output IP Ou Port 1 Po Service List
I-QAMA-R02	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 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	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	IP Input TS Analysis © © © © ©	tting Multiplexing Sys Modulation Output IP Ou Port 1 Pr Service List III III III III III
I-QAMA-R02	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 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	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	IP Input TS Analysis © © © © ©	tting Multiplexing Sys Modulation Output IP Ou Port 1 Pr Service List III III III III III III
I-QAMA-R02 Work Port Bitrate : 0.0 Channel 1.1 1.2 1.3 1.4 1.5 1.6 1.7	IP Address : Port 239.192.10.200 : 10000 239.192.10.201 : 10000 239.192.10.202 : 10000 239.192.10.202 : 10000 239.192.10.202 : 10000 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 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 0.000 0.000 0.000 0.000	IP Input TS Analysis © © © © © © © © © ©	tting Multiplexing Sys Modulation Output IP Ou Port 1 Pr Service List III III III III III III III III

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	I
1.3	227.40.50.90 : 1234	26.256	28.130	۲	:
1.4	227.40.50.91 : 1234	9.520	10.085	۲	i =
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	:=
1.7					
1.8	0.0.0.0 : 0	0.000	0.000	۲	
1.8	0.0.0.0 : 0	0.000	0.000	•	:=
1.8					
1.8 1.0 nel 1.1 TS Analysis	0.000-0	0.000	0.000 Search	•	Reset Counter
1.8 1.0 nel 1.1 TS Analysis PID	Bitrate(Mbps)	Bandwidth(%)	0.000 Search Continuity Count Error	Туре	Reset Counter
1.8 1.0 nel 1.1 TS Analysis PID 0x0(0)	Bitrate(Mbps) 0.022	0.000 Bandwidth(%) 0.113	0.000 Search Continuity Count Error 0	Type PAT	Reset Counter
1.8 1.0 nel 1.1 TS Analysis PID 0x0(0) 0x31(49)	Bitrate(Mbps) 0.022 13.098	Bandwidth(%) 0.113 67.180	0.000 Search Continuity Count Error	Type PAT PCR, Video	Reset Counter
1.8 1.0 nel 1.1 TS Analysis PID 0x0(0) 0x31(49) 0x34(52)	Bitrate(Mbps) 0.022	0.000 Bandwidth(%) 0.113	0.000 Search Continuity Count Error 0 0	Type PAT	Reset Counter
1.8 1.0 nel 1.1 TS Analysis PID 0x0(0) 0x31(49)	Bitrate(Mbps) 0.022 13.098 0.397	Bandwidth(%) 0.113 67.180 2.036	Continuity Count Error 0 0	Type PAT PCR, Video Audio	Reset Counter
1.8 1.0 Inel 1.1 TS Analysis PID 0x0(0) 0x31(49) 0x34(52) 0x35(53)	Bitrate(Mbps) 0.022 13.098 0.397 0.198	0.000 Bandwidth(%) 0.113 67.180 2.036 1.016	Continuity Count Error 0 0 0 0	Type PAT PCR, Video Audio 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)	TS Analysis	Service List	
1.1	227.40.50.88 : 1234	18.455	19.764	۲	I	-
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	:=	
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	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.

			[3]				
	[Туре	PID	Bitrate(M		IP Input Mo	dulation Output IP Outpu
		PCR	49(0x31) 48(0x30)	27.219 0.011			Port 1 Port 2
Channel	IP Address : Port	Video(MPEG2)	49(0x31)	27.219	te(Mbps)	TS Analysis	Service List
1.1	227.40.50.88 : 1234	Audio(AC3) Audio(AC3)	52(0x34) 53(0x35)	0.767	00	۲	
1.2	227.40.50.89 : 1234	Audio(AC3)	03(0/30)	0.304	00	۲	I
1.3	227.40.50.90 : 1234		Close		11	۲	:
1.4	227.40.50.91 : 1234				30	۲	I
1.5	227.40.50.92 : 1234				58	۲	I
1.6	0.0.0.0 : 0				00	۲	I
1.7	0.0.0.0 : 0		0.000			۲	I
1.8	0.0.0.0		0.000	0	.000	۲	I
10	0.0.0.0		0.000		000		:=

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				Stat	tus Basic Setting 1	Multiple
Total Bitra	ate: 27.962 Mbps					IP Input Modulatio	on Outpu
Tempera	ture: 41°C (105.8°F)	Tip: The mod	ule will stop RF output	when the temperature	reaches or exceeds	s 74 degrees Celsius(165.	.2 degree
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			
			Tron Internet	•	E		
1.3	0.000	0.000	Normal	۲			
1.3 1.4	0.000	0.000		-			
			Normal	۲	=		
1.4	0.000	0.000	Normal Normal	•			
1.4 1.5	0.000	0.000	Normal Normal Normal	0			
1.4 1.5 1.6	0.000 0.000 0.000	0.000 0.000 0.000	Normal Normal Normal Normal	© © ©	11 12 12		
1.4 1.5 1.6 1.7	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000	Normal Normal Normal Normal Normal	© © ©			
1.4 1.5 1.6 1.7 1.8	0.000 0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000 0.000	Normal Normal Normal Normal Normal Normal	0 0 0 0			
1.4 1.5 1.6 1.7 1.8 1.9	0.000 0.000 0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000 0.000 0.000	Normal Normal Normal Normal Normal Normal Normal	0 0 0 0 0 0	8		
1.4 1.5 1.6 1.7 1.8 1.9 1.10	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	Normal Normal Normal Normal Normal Normal Normal	0 0 0 0 0 0 0 0 0 0			

Channel	Effective Bitrate(Mbps)	Total Bitrate(Mbps	s) Bitrate	TS Analysis	Service List		Channel : 1.1
1.19	0.000	0.000	Normal	۲		#	Service
1.20	0.000	0.000	Normal	0		1	[3]
1.21	0.000	0.000	Normal	۲			
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	:		r-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			
1.31	0.000	0.000	Normal	۲			
1.32	0.000	0.000	Normal	۲			
Channel 1	.1 TS Analysis				Search		Reset Counter
	PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре		Service
	0x0(0)	0.015	0.039	84	PAT		
	0x11(17)	0.015	0.039	37	SDT, B	AT	
	0x30(48)	0.015	0.039	99	PMT		
	0x31(49)	0.000	0.000	127	PCR, Vie	deo	
	0x34(52)	0.000	0.000	127	Audio		
	0/04(02)	0.000	0.000	121	Audio		

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						Status	Basic	Setting	Multiplexin	g Sys
								IP Input	Modula	ition Output	IP Out
										Por	t1 Po
Total Bitrate	: 26.983 Mbps										
Total Dillate	20.000 mbp3										
Channel	IP Address : Port	Effective Bitrate(M	Total Bitrate(Mb	Bitrate	TS Analysis	Service Lis	t				
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	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						
1.14	0.0.0.0 : 0	0.000	0.000	Normal	۲		_				

							IP Input	Modulation Output	IP Output
									Port 1
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	i =			
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				
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				
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.

							IP Inp	out 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		1000	224.20.20.6	1234	UDP 👻	7 🔹	Disable 👻	00:00:00:00:00
1.7	0	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
	0	1000	224.20.20.9	1234	UDP -	7 🔹	Disable 👻	00:00:00:00:00
1.9	<u> </u>							

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

									Port 1	Po
tch Setting	^									
Select All			Start Channel-	End Channel	1 - 2	56				
Enable		Disable 💌	Destination	IP Address	227.10.20.80	ame 👻				6
Protoco	ol	UDP -	Destination	Port	1234 S	ame 💌				App
Enable	VLAN	Disable -	UIAN ID		1					
			TS Packets	Por IP Packot	7 -					
				Batch Setting						
		4 5 6 7 8 s		Batch Setting	TS Packets Per IP	VLAN Enable		VIAN ID		
	2 3 4 Enable ☑		10 11 12 13	Batch Setting			•	VIAN ID		
Channel	Enable	Destination IP Add	10 11 12 13 Destination Port	Batch Setting	TS Packets Per IP	Disable	 ▼ 1 ▼ 1 	VIAN ID		
Channel	Enable <i></i>	Destination IP Add 227.40.50.88	10 11 12 13 Destination Port 1234	Batch Setting 14 15 16 Protocol	TS Packets Per IP 7	Disable Disable		VIAN ID		
Channel 1.1 1.2	Enable	Destination IP Add 227.40.50.88 227.40.50.89	10 11 12 13 Destination Port 1234 1234	Batch Setting 14 15 16 > Protocol UDP •	TS Packets Per IP 7 ▼ 7 ▼	Disable Disable Disable	• 1	VIAN ID		
Channel 1.1 1.2 1.3	Enable	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 14 15 16 ≥ Protocol UDP ▼ UDP ▼ UDP ▼	TS Packets Per IP 7 7 7 7	Disable Disable Disable Disable	• 1	VIAN ID		
Channel 1.1 1.2 1.3 1.4	Enable C C C C C C C C C C C C C	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 1234 1234 1234 1234	Batch Setting 14 15 16 ≥ Protocol UDP ▼ UDP ▼ UDP ▼	TS Packets Per IP 7 7 7 7 7	Disable Disable Disable Disable Disable	 ■ 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
						IP Input Modulation Outp	ut IP Outp
Batch Settir	ng 🗸						
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!	I
	OK

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

					IP Input Modulation Output	1
atch Settir	ng ^					
Select A	AII		Start Channel-End Channel	1 - 32		(
Enab	le	Disable 🔻	Start Frequency	48000		
Band	width	7 -	QAM Mode	QAM32 👻		
🗆 Symb	olRate	6875				
			Batch Setting			
ELevel(d						
Channel	Enable	1	QAM Mode	SymbolRate(KBaud)	RF Level Gain (dBmV)	
Channel		Frequency(KHz)		SymbolRate(KBaud)	RF Level Gain (dBmV)	
	Enable	Frequency(KHz)	QAM Mode			
	Enable	Frequency(KHz)	QAM Mode	6875	0	
1.1 1.2	Enable e	Frequency(KHz) 474000 208000	QAM Mode QAM64 ▼ QAM64 ▼	6875 6875		
1.1 1.2 1.3	Enable © ©	Frequency(KHz) 474000 208000 216000	QAM Mode QAM64 ▼ QAM64 ▼ QAM64 ▼	6875 6875 6875		
1.1 1.2 1.3 1.4	Enable © © © ©	Frequency(KHz) 474000 208000 216000 224000	QAM Mode QAM64 ▼ QAM64 ▼ QAM64 ▼ QAM64 ▼ QAM64 ▼ QAM64 ▼	6875 6875 6875 6875		

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.

							IP Inp	out Modulation Output
								Port
atch Settin	g 🗙							
< 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	00:00:00:00:00:00
1.3		1000	224.20.20.3	1234	UDP -	7 •	Disable 👻	00:00:00:00:00
1.4	0	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		1000	224.20.20.6	1234	UDP -	7 👻	Disable 👻	00:00:00:00:00
1.7	0	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
19		1000	224 20 20 9	1234		7	Disable	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 Output
							1	
h Setting	<u>^</u>							
Select A	AII		Start Channel-End C	Channel 1] - [16		
Enab	le	Disable	 Destination IP Ad 	dress 22	7.10.20.80	Same 👻		
Sour	ce Port	1000	Destination Port	12	34	Same 👻		
Proto	col	UDP	TS Packets Per IF	P Packet 7				
Bitrat	te	25	Enable Destination Batch Set		sable 💌	AA:BB:CC:DD:EE:		
< Bitrat		25 Source Port			Protocol	AA:BB:CC:DD:EE:	ket Enabl	e Destination MAC
< 1	>		Batch Set	tting			ket Enabl	
< 1 hannel	> Enable	Source Port	Batch Set	tting Destination Port	Protocol	TS Packets Per IP Pac		e 🔹
< 1 hannel 1.1	> Enable 愛	Source Port	Destination IP Address	Destination Port	Protocol	TS Packets Per IP Pac	Disabl	e •
< 1 hannel 1.1 1.2	> Enable Ø	Source Port	Destination IP Address 224.20.20.1 224.20.20.2	Destination Port	Protocol UDP ▼ UDP ▼	TS Packets Per IP Pac 7 7	DisablDisabl	e •

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.

Dutput Channel 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 Configuration PSIP PID Transmission Port 1 Port 2 1-32 33 64 65 96 97 128 129 160 161 192 193 224 225 256 57 288 289 320 321 -352 353 384 385 416 417 449 480 481 -512 58 58 289 320 321 -352 353 384 385 416 417 -448 449 -480 481 -512 59 59 32 133 14 1.5 1.6 1.7 1.8 1.9 1.10 1.11<
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 Source Service Configuration PSIP PID Transmission Port 1 Port 1 Port 2 1-32 33 - 64 65 - 96 97 - 128 129 - 160 161 - 192 193 - 224 225 - 256 57 - 288 289 - 320 321 - 352 353 - 384 385 - 416 417 - 448 449 - 480 481 - 512
Source Service Configuration PSIP PID Transmission Port 1 Port 2 1 - 32 33 - 64 65 - 96 97 - 128 129 - 160 161 - 192 193 - 224 225 - 256 57 - 288 289 - 320 321 - 352 353 - 384 385 - 416 417 - 448 449 - 480 481 - 512 Rease tick the input channel to get the source of the program Select All
Port 1 Port 2 1-32 33 - 64 65 - 96 97 - 128 129 - 160 161 - 192 193 - 224 225 - 256 57 - 288 289 - 320 321 - 352 353 - 384 385 - 416 417 - 448 449 - 480 481 - 512 lease tick the input channel to get the source of the program Select All
1 - 32 33 - 64 65 - 96 97 - 128 129 - 160 161 - 192 193 - 224 225 - 256 57 - 288 289 - 320 321 - 352 353 - 384 385 - 416 417 - 448 449 - 480 481 - 512 Iease tick the input channel to get the source of the program Select All
57 - 288 289 - 320 321 - 352 353 - 384 385 - 416 417 - 448 449 - 480 481 - 512 lease tick the input channel to get the source of the program Select All
lease tick the input channel to get the source of the program Select All
1.17 1.18 1.19 1.20 1.21 1.22 1.23 1.24 1.25 1.26 1.27 1.28 1.29 1.30 1.31 1.32
anning Time(ms) : 1000 Set Source DECM/EMM Filter RF Output[1] 57000KHz 5057KBaud [0.090/27.962M]
Source Service Name 3
C Bypass 1 1.2 [149] DA VINCI KIDS HD X
2 1.1 [163] HEO HD X
Image: Instant and the second secon

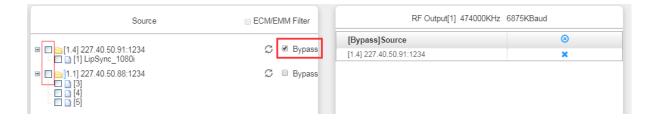
Multiplexing-Source> Source is where you select a source for output. You can chose *Port 1* **2** for the source. Each port is divided into 16 groups to complete 512 channels. Select a Port and you can see service lists of Group and Channel as shown below.

Output C	hannel															
output c			c	7 0	0	40 44	40	12 11	45 40							
17 18	3 19	4 5 20 21	6 22	7 8 23 24	9 25	10 11 26 27	12 28	13 14 29 30	15 16 31 32							Appl
Source	Servic	e Configura	ation	PSIP P	D Transmis	sion										C
Port 1	Port	2														Clea
1 - 32	33 - 6	65 65	- 96	97 - <mark>1</mark> 28	129 - 160	161 - 1	92 <u>1</u> 93 -	224 22	5 - 256							
257 - 288	289 - 3	320 321	- 352	353 - 384	385 - 416	417 - 4	48 449	480 48	1 - 512							
	k the inp	ut channe	el to get	t the source	of the pro	gram	Select	All								
Please tic	0.000000000			100 4 4	1.6	1.7	1.8	1.9	1.10	1.11	1.12	1.13	1.14	1.15	1.16	
	1.2	2 1.3	2 1.4	1.5	0	1.										
1.1	1000000000	✓ 1.3☐ 1.19	1.4		1.22	1.23	1.24	1.2	5 🗌 1.26	1.27	1.28	1.29	1.30	1.31	1.32	
1.1	1.2	1. 1 9	1.0		-	1.23	1.24	() 1.2	5 [] 1.26	1.27	1.28	1.29	1.30	0 1.31	1.32	

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 □ [1] LipSync_1080i	💭 🗆 Bypass	1	1.1	[3]	×
	<i>C</i> = 5	2	1.1	[4]	×
□ [1.1] 227.40.50.88:1234 	🗘 🗆 Bypass	3	1.1	[5]	×
- 🗹 🗋 [3] - 🗹 🗋 [4]		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														Statu	IS	Basic Setting	Multiplexing	Scrambling	Syste
Dutput	t Channe	I																		
1	2 3	4	5	6	7	8	9	10	11	12	13	14	15	16						
7 1	18 19	20	21	22	23	24	25	26	27	28	29	30	31	32						Appl
																				C
ource	Serv	ice Con	iguratio	on :	SI labi	e Settir	g P	D I rar	nsmissi	ion										
lease	click "Ap	olv" afte	r modifi	ving pa	aramet	ers. Otł	erwise	new c	onfiqu	ration	can no	t be sa	ived.							
Please	click "Ap	ply" afte	r modif	ying pa	aramet	ers. Otł	erwise	new c	onfigu	ration	can no	t be sa	ived.						×	Clear
Please	click "Ap	ply" afte	r modif <u>i</u>			ers. Otł	erwise,					t be sa	ived.						×	
Please	click "Ap	ply" afte	r modif <u>i</u>	ying pa Outpo		ers. Oth	erwise,		onfigui ditTS N			t be sa	ived.						×	
Please	click "Ap		r modif <u></u>			ers. Oth		E				t be sa	ived.						×	
Please			r modif <u>i</u>			Servic		E				t be sa	wed.						×	
Please	Source		r modif <u>i</u>			Servic	e Name	E				t be sa	ived.						×	
1	Source 1.1		r modif <u>i</u>			Servic	e Name [3]	E				t be sa	wed.						×	

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	13]	S	ervice ID	1	1
1.1	14]	S	ervice Name		LipSync_1080i
1.1 1.4	✓ [5] ✓ [1]LipSync 1080	i s	ervice Provider		Harmonic
			CR PID	512	512
		P	MT PID	256	256
		V	ideo(H264)	513	513
		А	udio	4112	4112
		р	rivate Data/AC3	4114	4114

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	X [1]LipSync_1080i	1	3	Program-1	
			<u>ی</u>		
		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 <u>NIT</u> BAT	NIT Network NIT S	Stream NIT Other		
	Source	Service Name	Tag(Hex)	40		
1	1.1	X [3]Program-1	Tug(TIEX)	40		
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.

	T Notwork	MIT One	m NIT Other	
Source Service Name	iginal Network		2	
1.1 (3)Program-1 1.1 (4)Program-2 TS	-		2	
1.1 💉 [5]bbPBR			Add	
1.4 🖍 [1]LipSync_1080i				
Ori	iginal	TS ID	Descriptor	Operation
	1	1	1 tag:0x44 🗙 🗹 2 tag:0x83 🗙 🗹	× +Descriptor
	2	2		LCN 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	e click "Apply" afte	er modifying parameters. Otherwise, new con	nfiguration can no	ot 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	
	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	
1	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 8 9 10 11 12 13 14 15 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Source Service Configuration SI Table Setting PID Transmission Output [1.1] PAT Insert EIT Shared CAT Insert EIT Shared OUtput [1.1] PAT Insert EIT Shared OTDT Insert EIT Shared OTDT Insert OTT Insert BAT Shared OT Insert OT Shared OT Insert OT Shared OT Insert OT Shared OT Insert OT Shared OT Insert Intert Intert OT Insert Intert Intert <td colsp<="" th=""></td>	
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Source Service Configuration SI Table Setting PID Transmission	
Source Service Configuration SI Table Setting PID Transmission Output [1.1] @PAT Insert EIT Shared @CAT Insert CAT Shared @SDT Insert SDT Shared @TDT Insert TOT Shared BAT Insert BAT Shared NIT Insert NIT Shared @PMT Insert NIT Shared	
PAT Insert EIT Shared CAT Insert CAT Shared SDT Insert SDT Shared TDT Insert TDT Shared BAT Insert BAT Shared NIT Insert NIT Shared PMT Insert NIT Shared	
CAT Insert CAT Shared SDT Insert SDT Shared TDT Insert TDT Shared TOT Insert TOT Shared BAT Insert BAT Shared NIT Insert NIT Shared PMT Insert NIT Shared	
SDT Insert SDT Shared TDT Insert TDT Shared TOT Insert TOT Shared BAT Insert BAT Shared INIT Insert NIT Shared	
TDT Insert TDT Shared TOT Insert TOT Shared BAT Insert BAT Shared INIT Insert INIT Shared	
TOT Insert TOT Shared BAT Insert BAT Shared NIT Insert NIT Shared PMT Insert	
BAT Insert BAT Shared NIT Insert NIT Shared ♥PMT Insert	
■NIT Insert ■NIT Shared PMT Insert	
⊘PMT Insert	
_	
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						
17 18 19 20 21 2	5 7 8 9 10 2 23 24 25 26	6 27 28 29 30	15 16 31 32			
Source Service Configuration	SI Table Setting PID Tr	Output PID	Delete	Input	1.1	Apply
	No Data			Input PID Output PID	32	Clear Config
					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.

						Service Scrambling CAS 1	CAS 2 CAS 3	CAS 4 CA	AS 5 CAS
Enable	Enable	•	ECM Stream ID		12	ECM ID 12	ECM PID 401	1	Apply
	Staus		AC Data(Hex)		00010001	00014010		Add	
Status	ECMG 🧕	EMMG 曼	Export			В	irowse Import		
Count	0	0	Stream ID	ID	PID	AC Data(Hex)		8	
ryption Period(s)	30		1	1	4000	0001000100014000		ж 🔺	
urrent Period	D		2	2	4001	0001000100014001		×	
	ECMG		3	3	4002	0001000100014002		×	
AS System ID	Dec 5218	Hex 1462	4	4	4003	0001000100014003		×	
CMG Sub System ID	Dec ()	Hex 0	5	5	4004	0001000100014004		x	
CMG IP Address	192.168.1.199		6	6	4005	0001000100014005		×	
CMG Port	5500		7	7	4006	0001000100014008		×	
CMG Channel ID	1		8	8	4007	0001000100014007		×	
	EMMG		0	9	4007	0001000100014008		_	
MMG TCP Port	6000							×	
MMG UDP Port	7000		10	10	4009	0001000100014009		×	
MM Send Type	TCP+UDP	•	11	11	4010	0001000100014010]	×	

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.

2 3 4 5					
ice Scrambling Setting					Batch Setting V
NO. SERVICE(12)	CA\$1	CA \$2	CA \$3	CAS4	
1	None 🔻	None 💌	None 💌	None 💌	A
2	None 1	None 👻	None 👻	None 💌	
3	2	None 👻	None 👻	None 👻	
4	4	None 👻	None 👻	None 👻	
5	6	None 👻	None 💌	None 👻	
6	None 👻	None 👻	None 👻	None 👻	
7	None 👻	None 👻	None 👻	None 👻	
8 💌 🗖 📴 [CH:3] > [4]	None 👻	None 👻	None 💌	None 👻	
9	None v	None v	None 👻	None 👻	
10	None 👻	None 👻	None 👻	None 👻	
11	None 👻	None 👻	None 🔻	None 👻	_
12 ■ □ □[CH:5] > [4]	None 👻	None 👻	None 💌	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.

utput Char							Scrambled service: 0	
2 3	3 4 5							
ervice Scra	mbling Setting						Batch Setting ^	
When the	number of programs exceed	is the number of (CASs that ca	n be allocated, the (CAS setting will re	oeat.	×	
Select Bate	ch Setting Parameter	Auto Assign	Sta	rt Service Number	~ End Service Nu	imber		
 Service 								
CAS1	None	•						
CAS2	None 👻	0	1		~ 5		ок	
CAS3	None 👻							
CAS4	None 👻							
NO.	SERVICE(12)		CA\$1	CA \$2	CA \$3	CAS4		
1 6	■ 🔽 🚞 [CH:1] > [3]	1	•	None 🔻	None 🔻	None 💌	A	
2 8	● 🔽 🚞 [CH:1] > [4]	2		None 🔻	None *	None *		
3	€ 🔽 🚞 [CH:1] > [5]	3	-	None 🔻	None 🔻	None *		
4 6	■ [CH:1] > [1]LipSync_	1080i 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.

					Status	Basic Setting Multiple	exing S
						Ne	twork S
Port	IP Address	Subnet Mask	Gateway	MAC Address	Link Speed	Link Status	A
NMS	192.168.1.24	255.255.255.0	192.168.1.254	A0:69:86:06:38:06			C
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-Q4	AMA-R02			Status	Basic Setting	Multiplexing	System
						Network	Setting
Program	Auto Scan						
	Enable	□ Set					
Clear all (channel configuration						
		Clear					
Configura	ation						
	Import Configuration		Browse Upload				
	Export Configuration	Export					
License							
	Product ID	DF3099990031					
	Import License		Browse Upload				
	Export License	Export					
Logs							
	Open						
SNMP MIE	3						
	Export MIB	Export					
Others							
	Reboot	(Reart D) Connects					

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	<u>s</u> 1	₹ E	nable Real-time Log: ON				Filte	r: 🔻
	Level			essage				
			No Data					
					Tips:	lnformation	A Warning	C Error
	Click	9	to clear all log messages on the scr	oon				
	CIICK			CCI1.				
\triangleright	Click	Ē	to delete all log information.					
\succ	Click	_	to export log information.					

> Click T to filter desired log messages.

Le	vel
Level	Operation
Error	v
Warning	
Information	e
Debug	
Modu	le List
Module Name	Operation
SYS	
PARAMS	
UPGRADE	
TSPROCESS	
SIPROCESS	
LICENSE	

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.

CMP201D User Guide



CM2-QAMA-R01>Basic Setting

	MA-R01					Status Basic Setting	Output Sy
RF Level:	25	(dBmV 🍭 dBuV	○) PSI/SI Interval(n	ns): 50			
Channel	Enable	Frequency(KHz)	QAM Mod	le	SymbolRate(KBaud)	Bandwidth(MHz)	
1.1		474000	QAM64	-	5185	6	- Apply
1.2		482000	QAM64	-	5185	6	
1.3		490000	QAM64	-	5185	6	V
1.4		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	work ID ID	0	Clear	LCN Select Service
TS ID		0	Config	Service ID LCN Visible Service Flag
Origin	TS ID	Add	Operation	
		1 tag:0x83 🗱 🗹		
0	0	2 tag:0x44 🗙 🗹	LCN Descriptor	
		1 tag:0x83 🗙 🗹		
0	1	2 tag:0x44 🛛 🗙 🗹	* +De Cable Descriptor	
		1 tag:0x83 🛛 🗙 🗹		
0	2	2 tag:0x44 🛛 🗙 🗹	* +Descriptor	
		1 tag:0x83 🛛 🗙 🗹	the L Development	
0	3	2 tao:0x44 🛛 🗙 🏹	× +Descriptor	OK Close

	Servio	ce List			LCN	
TS	Service ID	Service Name	Service ID	LCN	Visible Service Flag	C
1.1	1	Program 01	1	1	Visible	×
1.1	2	Program-02	2	2	Visible	>
1.1	3	Program-03	3	3	Visible	×
1.1	5	r iogram-oo				

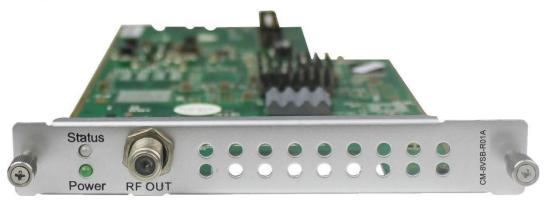
• Click +Descriptor and Cable Descriptor. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency). Then click OK (this operation should be set on Modulator module only).

	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

M2-8V9			Status	Basic Setting	Output	Syste
F Level:	40	(dBmV BuV PSI/SI Interval(ms); 100 Channel Standard; OFF-AIR				
Channel	Enable	Frequency				
1.1		CH2-57MHz			-	Appl
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 🖗 Sy	ystem Settings 🏠 IP Input	🕼 IP Output 📔 🧟 agent 🗸
System Settings		Network Time System	n Password NMS Register	Advance Settings SNMP
	Standard Language Authorized Use Time Destination Module Number CA Descriptor Filter PAT Sync Update VLAN Enable	ATSC English Stay With First Level Authorized Time 4 Disable Disable Disable	 0 0 Never expires 0 	Apply

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-QAI					Status	Basic Setting Outpu	t Syster
RF Level:	40	(dBmV ⊛ dBuV ○) PSI/S	I Interval(ms): 100	Channel Standar	rd: STD 💌		
Channel	Enable	Frequency	QAM	Mode	SymbolRate(KB	aud)	
1.1		CH2-57MHz	▼ QAM256	•	5361		Appl
1.2		CH2-57MHz	▼ QAM256	•	5361		
1.3		CH2-57MHz	▼ QAM256	*	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.

	rk NIT S		Apply Clear Config	LCN Select Selec
		Add		
Origin	TS ID	Descriptor	Operation	· · · · · · · · · · · · · · · · · · ·
0	0	1 tag:0x83 🗙 🗹	× +Der	
-		2 tag:0x44 🛛 🗙 🗹	LCN Descriptor	
		1 tag:0x83 🛛 🗙 🗹	Cable Descriptor	
0	1	2 tag:0x44 🛛 🗶 🗹	X +De Cable Descriptor	
		1 tag:0x83 🙁 🗹		
0	2	2 tag:0x44 🗙 🗹	× +Descriptor	
		1 tag:0x83 🗙 🗹		
			× +Descriptor	

	Servio	e List			LCN	
TS	Service ID	Service Name	Service ID	LCN	Visible Service Flag	C
1.1	1	Program 01	1	1	Visible	×
1.1	2	Program-02	2	2	Visible	⇒
1.1	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).

Cable Descriptor						
Frequency(KHz)	SymbolRate(Ksymb	Constellation				
200000	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

						Stat	us Basic Setting C	output Sy
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 👻	2K 👻	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	0-31.5dBmv/60-91.5dB μ
			V
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).

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	
		1 tag:0x83 🛛 🗙 🗹	W Dourish	
0	0	2 tag:0x44 🛛 🗙 🗹	LCN Descriptor	
		1 tag:0x83 🛛 🗙 🗹	× +De Cable Descriptor	
0	1	2 tag:0x44 🛛 🗙 🗹		
		1 tag:0x83 🛛 🗙 🗹	* 10	
0	2	2 tag:0x44 🛛 🗙 🗹	× +Descriptor	
		1 tag:0x83 🗙 🗹	× +Descriptor	
0	3			

	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	N 66	Visible	
1.3	2	td HD Phx Chinese Cha			A ISING	<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	s Basic Setting	Output Syst
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	- Ap
1.2		482000	6 💌	2K *	1/4 💌	64QAM 👻	7/8 💌	Full Seg	-
1.3		490000	6 💌	2K •	1/4 💌	64QAM 👻	7/8 👻	Full Seg	w
1.4		498000	6 👻	2K *	1/4 -	64QAM 👻	7/8 👻	Full Seg	v

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	twork ID ID	0			Clear Config		LCN	l	Select Servio
TS ID		0			Config	Service ID	LCN	Visible Service Flag	1 0
		Add							
Origin	TS ID	Descript	or Ope	eration					
0	0	1 tag:0x83 X 🗹 2 tag:0x44 X 🗹		LCN Descriptor					
0	1	1 tag:0x83 🗱 🖸 2 tag:0x44 🕱 🕼		Cable Descriptor		\Rightarrow			
0	2	1 tag:0x83 X 🗹 2 tag:0x44 X 🗹	X +Des	criptor					
0	3	1 tag:0x83 X 2		criptor 🗸			ОК	Close	
		Service	e List]				
		Service ID	Service Nam				LCN		1.10
TS	5	service ID	Service Mari	ne 🕑		1		S	elect Serv
TS 1.1	S	1	Program-01	ie	Servi			sible Service Flag	elect Ser

Progra

1.1

3

• 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.

66

Visible

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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 CMP201D 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	
		-

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 Layer 2
			Mpeg2-AAC, Mpeg4-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:	0.000 Mbps	
Effective Bitrate:	0.000 Mbps	
Video Resolution:	No Video	
ASI Input		
Signal Lock:	Unlocked	
Total Bitrate:	0.000 Mbps	
Effective Bitrate:	0.000 Mbps	
Program Scan Status:	Abnormal	
IP Output		
Total Bitrate:	0.000 Mbps	
Video Bitrate:	0.000 Mbps	
Audio Bitrate:	0.000 Mbps	
Effective Bitrate:	0.000 Mbps	
Version Info		
Firmware Version:	V0.3.0	
Software Version:	V1.4.3	
Hardware Version:	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.



CP2-CAM-00 >Status

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

AM-00			Status	CI Service Configuration System
Channel	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Service List
1.1	0.000	0.000	۲	
1.2	0.045	0.045	۲	

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

icon (Image: 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	al Bitrate(Mb	(ps)	[6] R	ussia Today	
	1.1		0.000		Туре	PID	Bitrate(M
	10		0.045		PCR	1060(0x424)	0.000
	1.2		0.045		PMT	5006(0x138e)	0.000
	Channel : 1.1			Chan	StreamType:2- Video(MPEG2)	1060(0x424)	0.000
				Chan	StreamType:4-Audio	1061(0x425)	0.000
#	Service	#	Service		ECM	5006(0x138e)	0.000
1	[6] Russia Today	1	[1] Progra	m-1			
2	[9] Al Jazeera Inte					Close	
3	[12] TV5						
4	[30] DW (Asien)						
5	[37] DW09						
6	[40] RFI Francais						
7	Iddl DEL Divora d						

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.

P2-CAM-00		Sta	tus CI	Service Configuration	System
M Max Bitrate: 72Mbps - 48Mbps 56Mbps 64Mbps	CAM1 Auto Reset: Disable CAM2 Auto Reset: Disable CAM1 (Not inserted)	CAM2 (Not inserted)		MMI Setting	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(Video)	1.1 [6] Russia Today	Descrambling Failed
1090(Video)	1.1 (9) Al Jazeera International	Descrambling Failed
1120(Video)	1.1 [12] TV5	Descrambing Failed
1300(V/deo)	1.1 [30] DW (Asien)	Descrambling Failed
1371(Audio)	1.1 [37] DW09	Descrambing Failed
401(Audio)	1.1 (40) RFI Francais	Descrambling Failed
1411(Audio)	1.1 [41] RFI Divers 4	Descrambing Failed
1421(Audio)	1.1 [42] RFI Cambodge	Descrambling Failed
2020(Video)	1.1 (202) DW	Descrambing 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)		1
(37) DW09		/
(40) RFI Francais		/
[41] RFI Divers 4		1
(42) RFI Cambodge		/
(202) OW		1

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

nannel Select : Channel 1.1	Channel Scan	
Service Name	Descrambling	Destination
Channel 1.1		17.Baseboard[1.1]
) Russia Today	No Descramblin	
] Al Jazeera International	No Descramblin	
12] TV5	No Descramblin	
0] DW (Asien)	(No Descramblik)	
7] DW09	No Descramble	
)] RFI Francais	No Descramblin	
1] RFI Divers 4	No Descramblin	
2] RFI Cambodge	(No Descramble)	
02] DW	No Descramble	
Channel 1.2	+	
1 Program-1	No Descramble	

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-CAM-00					Status	CI	Service Configuration	System
Change CAM Mode : Scra	ambling Apply ambling							
	crambling							
Import License	e			Browse	Upload			
Export License	e	Export						
Logs								
Open								
Others								
Reboo		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.

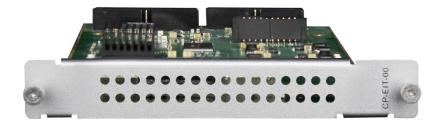
Level	Message	
6	[SYS][Resource_Refresh:995] ===================================	
6	[SYS][Resource_Refresh:996] Refresh slot13 resource!^M	
6	[SYS][Resource_Refresh:997] ===================================	
6	[SYS][Resource_Refresh:995] ==============================M	
6	[SYS][Resource_Refresh:996] Refresh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

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

k			1			
💁 🛃 Enable Real-time Log: 💽		Level				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	ule List			
0	[SYS][Resource_Refresh:997] ======	Module Name	Operation			
0	[SYS][Resource_Refresh:995] ======	SYS	2			
0	[SYS][Resource_Refresh:996] Refresh	INIT	2			
0	[SYS][Resource_Refresh:997] ======	FPGA	2			
		GPIO				
		CI	2	-		
		OK	Cancel			
				_		

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.

			Sta	Module Setting S
EIT Enabled Module	Channel	Service Name	Service ID	Source
4.CM-QAMA-01	CH1	CNN	32	Slot 6: CR-DVBS2CI
5.CM-QAMB-01	CH2	 Bloomberg BBC World 	56→303 1→55	Slot 6: CR-DVBS2CI Slot 6: CR-DVBS2CI
	CH3	 Animal Planet 	123→309	Slot 6: CR-DVBS2CI
	CH4	EuroSports CNN American idol	12→19 672→77 65→68	Slot 6: CR-DVBS2CI Slot 6: CR-DVBS2CI Slot 6: CR-DVBS2CI

CP2-EIT-00 >Settings

2-EIT-00		Status Module Setting S
EIT Enabled Module	EIT Enable/Disable Control	Tips
Baseboard 3.CM2-ISDBT-R01A 6.CM2-QAMA-R01A	E [CH1]	 EIT function is enabled by default on modulator module and disabled on all IP output channels of baseboard. 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. 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.

		[13]NU	
2.CM-QAMA-R01A	<<	Channel1	Multiplex
3.CM-ISDBT-R01	>>	Channel2	Multiplex
17.Baseboard	>>	Channel3	Multiplex
		Channel4	Multiplex
		Channel5	Multiplex
		Channel6	Multiplex
		Channel7	Multiplex
		Channel8	Multiplex
PID		Туре	Enable
448		PCR	×.
448		StreamType:27-Video(H264)	
449		StreamType:4-Audio	I all a second a se
450		StreamType:4-Audio	Image: A start of the start
1555		ECM	1

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 5.CM-QAMB-01	[CH1] [CH1] [CNN[123][NetworkID_121][TSID_235] [Fox[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 Appendix App
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]	
	00 🖂 [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		Status Module Setting
💁 🛓 Ena	ble Real-time Log: ex	Filter:
Level	Message	
0	[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]	
0	[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]	
0	[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]	
0	[TSP]952:EIT_GetInputTSNumber:3226 Get Input TS Num [1] from slot [16]	
0	[TSP]952.EIT_GetInputTSNumber:3228 Get Input TS Num [1] from slot [16]	
		Tip: ∲Debug €Information △ Warning C

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 messages.

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

Log	g Filter
	Level
Level	Operation
Error	
Warning	۲
Information	Ø
Debug	
Mo	dule List
Module Name	Operation
SYS	 A
INIT	
FPGA	
GPIO	
CI	
TEMP	
	· · · ·
OK	Cancel

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					St	atus Basic Setting	ASI Input	ASI Output	PSIP	Syste
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.

1.1 TS Analysis					Reset Counter
				Search	C
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:38-Video(H265)	512(0x200)	13.841
StreamType:15- Audio(MPEG2_AAC)	258(0×102)	0.329
	Close	

CP2-ASI-00 >Basic Setting

					Basic Setting		ASI Output	S
Channel	Input/Output		Packet Length		Total	Bitrate(Mbps))	
1.1	Output	•	188	•	36			
1.2	Output	•	188	•	36			ppl
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	Str	atus	Basic Setting	AS	l Input	ASI Output	PSIP	System
Channel Select: Channel 1.4 Scanning Time(maintenance)	ns): 1000 • Program Scan							
Service Name	Destination				Desti	nation Setting	3	\frown
	No Data							Apply
							(Clear
								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
O Click "Apply" after modifying your parameters to	save the configuration.							×		
[1.1] TS	¢ ^				[1.1] TS					Apply
1. Program4	(17.1.1)	Original Network ID			0					Clear Config
		TS ID			0					
		NO.	Service ID	Service Name Service Program4 Program4		ervice Provid	ler			
					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 MIT Stream T Network ID 1
Network (UT Steam) inal Network (D 1 1 Add inal Network (D 1 1 i
ginal Network ID 1 ID 4 Iginal Ne TS ID Descriptor Operation
ID 4 Add ginal Ne TS ID Descriptor Operation
riginal Ne TS ID Descriptor Operation
1 1 X +Descriptor
Logical Chapped Number
1 3 X+0x
Close
Logical Channel Number
Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag
Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag 1.4 1 1 Visible 2
Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag
Logical Channel Number
Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag 2 1.4 1 1 Visible 2 1.5 1 2 Visible 2 Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag
Logical Channel Number TS Service ID LCN [0,16383] Visible Service Flag 2 1.4 1 1 Visible • 2 1.5 1 2 Visible • 2 Logical Channel Number

 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.

	Status	Basic Setting	ASI Input	ASI Output	PSIP	System
Channel List	Output Channel [1.1] >> PSIP					
Select All	✓ PAT Insert ✓ PMT Insert					
	SDT Insert					
	CAT Insert					
	ОК					
	Select All	Channel List Output Channel [1.1] >> PSIP PAT Insert PAT Insert PAT Insert Channel [1.1] >> PSIP Channel [1.1] >> PSIP PAT Insert PAT Insert PAT INSERT PAT INSE	Channel List Output Channel [1.1]>> PSIP PAT Insert PAT Insert SDT Insert Channel [1.1]>> PSIP	Channel List Output Channel [1.1]>> PSIP PAT Insert PAT Insert Soft Soft Soft Soft Soft Soft Soft Soft	Channel List Output Channel [1.1]>> PSIP PAT Insert Output Channel [1.1]>> PSIP Output	Channel List Output Channel [1.1] >> PSIP PAT Insert PAT Insert SDT Insert Channel Channel [1.1] >> PSIP Channel Channel [1.1] >> PSIP Channel Channel [1.1] >> PSIP Channel Ch

CP2-ASI-00>System

CP2-ASI	-00		Status	Basic Setti	ng As	SI Input	ASI Output	PSIP	System
Program Au	uto Scan								
	Enable	□ Set							
License									
	Product ID	DK21145490056							
	Import License			Browse	Upload				
	Export License	Export							
SNMP MIB									
I	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 modele that supports multiple an IP 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		Systen
					Basic Setting	Log	s S)	/stem
onfigure IP Input & Out	out							
dd Channel								
Channel 1								0
Configure Channel A	dd Input Add Output	Switch t	o Primary Input				Remo	ove
🥒 Input Selectio	n Active: None Pr	imary: MPE	EG/IP Receive 1 Backup: None					
🗉 🥒 Input 1 (MPEG	/IP) Interface	e: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000	Mbps	•
🗉 🥒 Output 1 (MPE	G/IP) Interface	e: eth0	239.192.0.200:10000		×	0.000	Mbps	•
🗉 🥒 Output 2 (MPE	G/IP) Interface	e: eth0	239.192.0.201:10000		×	0.000	Mbps	•
Channel 3								0
Channel 4								0

Adding a Channel

P2-IP-00	Add Channel					CPU:	3%	Sys
	Input 1 Output 1							
	Receive Type:	MPEG/IP	Ŧ	Bas	ic Setting	Logs	s Sys	stem
Configure IP Input & Output	Receive:	Enabled	Ŧ					
Add Channel	Interface:	eth0	Ŧ					
	VLAN:	None	Ŧ					
Channel 1	Mode:	Multicast	*				_	0
Configure Channel Add Input Add Output	Destination IP:	239.192.0.200					Remo	/e
Input Selection Active: None Prima	Destination Port:	10000	÷					
Input 1 (MPEG/IP) Interface:	FEC:	Disabled	Ŧ	EC: Not Present	×	0.000	Mbps	•
Output 1 (MPEG/IP) Interface:	IGMP Filter Mode:	Exclude	Ŧ		×	0.000	Mbps	•
Output 2 (MPEG/IP) Interface:	Add IGMP Address	Re	emove All		×	0.000	Mbps	•
Channel 3	IGMP Address		Remove					0
Configure Channel Add Input Add Output							Remo	ve
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.

Add Channel		
Input 1 Output 1		
Receive Type:	MPEG/IP	Ŧ
Receive:	Enabled	*
Interface:	eth0	-
VLAN:	None	Ŧ
Mode:	Multicast	Ŧ
Destination IP:	239.192.0.200	
Destination Port:	10000	\$
FEC:	Disabled	-
IGMP Filter Mode:	Exclude	-
Add IGMP Address	Re	emove All
IGMP Address		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	temove 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 Include	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 Present 🗶 0.000 Mbps 🔴
Status Uni Sync Status: Uni Packets Per Frame: Encapsulation: FEC Rows: FEC Columns:	Statistics Out Of Order Packets: Out Of Order Packets: Discontinuity: FEC Corrected Packets: FEC Uncorrected Packets: FEC Corrected Packets: FEC Corrected Packets	Configuration VLAN: Mode: FEC: IGMP Mode: 2012-01-05 06:19:56 Counters	None Multicast Disabled Exclude

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".

Receive Type:SRTReceive:EnabledInterface:eth0VLAN:NoneCall Mode:CallerRemote Host:1.0.0.1Remote Port:10000Local Port Mode:AutoLocal Port:10000Discovery Timeout (seconds):3Latency (ms):20Passphrase:••••••••	Input 1 Output 1	
Interface:eth0VLAN:NoneCall Mode:CallerCall Mode:CallerRemote Host:1.0.0.1Remote Port:10000Local Port Mode:AutoLocal Port:10000Discovery Timeout (seconds):3Latency (ms):20	Receive Type:	SRT -
VLAN:NoneCall Mode:CallerRemote Host:1.0.0.1Remote Port:10000Local Port Mode:AutoLocal Port:10000Discovery Timeout (seconds):3Latency (ms):20	Receive:	Enabled ·
Call Mode:CallerRemote Host:1.0.0.1Remote Port:10000Local Port Mode:AutoLocal Port:10000Discovery Timeout (seconds):3Latency (ms):20	Interface:	eth0 💌
Remote Host: 1.0.0.1 Remote Port: 10000 Local Port Mode: Auto Local Port: 10000 Discovery Timeout (seconds): 3 Latency (ms): 20	VLAN:	None 💌
Remote Port: 10000 Local Port Mode: Auto Local Port: 10000 Discovery Timeout (seconds): 3 Latency (ms): 20	Call Mode:	Caller ·
Local Port Mode:AutoLocal Port:10000Discovery Timeout (seconds):3Latency (ms):20	Remote Host:	1.0.0.1
Local Port: 10000 Discovery Timeout (seconds): 3 Latency (ms): 20	Remote Port:	10000 \$
Discovery Timeout (seconds): 3 ‡ Latency (ms): 20 ‡	Local Port Mode:	Auto 👻
Latency (ms): 20 \$	Local Port:	10000 \$
	Discovery Timeout (seconds):	3 \$
Passphrase:	Latency (ms):	20 \$
	Passphrase:	••••••

SRT Receive Settings

Settings	Range	Description
Call Mode	Caller	Defines the 'handshake' mechanism to be
	Listener	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 (seconds)	1 – 100, use 0 for infinite	Defines the length of time to wait for the 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								٥
Configure Channel Add	Input Add Ou	tput Switch to I	Backup Input				Rem	ove
Input Selection	Active: SRT	Receive 1 Primary	: SRT Receive 1 Backup	o: None				
🖃 🥒 Input 1 (SRT)		Interface: eth0	255.255.255.255:6	5535	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	Ŧ
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	processing if TLS Certificate Error is 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	
		if 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.

onfigure Channel Add In	put Add Out	put Switch to Backup Input					Remov
Input Selection	Active: Zixi R	eceive 1 Primary: Zixi Receive 1	Backup:	None			
🖉 Input 1 (Zixi)	1	nterface: eth0 Invalid				×	0.000 Mbps
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 Recovered Packets: ARQ Packets: ARQ Packets: ARQ Recovered Packets: ARQ Deplicate 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	Ŧ
HLS Network Location:	http://playe	rtest.longtailvidec
	Apply a	and Refresh
Profile Name		Bandwidth
Decryption Mode:	Disabled	~
Decryption Key:	******	
Discovery Timeout (seconds):	3	÷
	Appl	y Cancel

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 RTP	Ŧ
Receive:	Enabled	Ŧ
Path 1 Interface:	eth0	~
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	R	emove All
IGMP Address		Remove
Path 2 Interface:	eth0	
VLAN:		-
Path 2 Destination IP:	None	
Path 2 Destination Port	239.192.0.200	*
Path 2 IGMP Filter Mode:		*
	Exclude	
Add IGMP Address	R	emove All
IGMP Address		Remove

Seamless RTP Receive Settings

Settings	Range	Description
Path 1 or 2 Destination IP	XXX.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 p	eath will comprise the addresses entered by
Box		ne sources input signals can be accepted rces that input signals are not to be accepted

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.

figure Channel Add	Input Add Ou	tput Switch to Backup	Input		Remo
Input Selection	Active: Sean	nless RTP Receive 1 Prim	ary: Seamless RT	TP Receive 1 Backup: None	
Input 1 (Seamles)	s RTP)	Path 1: 239.192.0.200:10000	F	Path 2: 239.192.0.200:10000	🗙 0.000 Mbps
Status		Path 1 Statistics		Path 1 Configuration	
Sync Status:	Unlocked	Out of Order Packets:	0	Physical Connector: eth0	Path 1 IGMP Filter List
Active Path:	0	Duplicate Packets:	0	VLAN: None	
Packets Per Frame:	0	Lost Packets:	0	IGMP Mode: Exclude	
Encapsulation:	N/A	Discontinuity:	0		
		Last Reset:	2021-04-26 06:44:55		
		Path 2 Statistics		Path 2 Configuration	
		Out of Order Packets:	0	Physical Connector: eth0	Path 2 IGMP Filter List
		Duplicate Packets:	0	VLAN: None	
		Lost Packets:	0	IGMP Mode: Exclude	
		Discontinuity:	0		
		Last Reset:	2021-04-26 06:44:55		

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:		
menace.	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:		

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 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
	DTLS	needs to be decrypted. Can only be enabled when using Main Profile Mode.
	PSK	DTLS Decryption will require public and private keys 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.

annel 5						
onfigure Channel Ado	i Input Add Ou	tput Switch to I	Backup Input			Remov
Input Selection	Active: RIST	Receive 1 Primar	y: RIST Receive 1 Backu	ip: None		
🖉 Input 1 (RIST)		Interface: eth0	255.255.255.255.65	535		🗙 0.000 Mbps
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 Packets:	0			
FEC Rows:	0	Fachels,				
TS Packets per RIST Packet:	0	Last Reset:	2021-04-26 01:24:56			
		🔁 Res	et Counters			

RIST Receive Statistics

Reset Counters The 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.

Transmit Type: Transmit:		-
	MPEG/IP Enabled	-
Interface:	eth0	Ŧ
VLAN:	None	Ŧ
Destination IP:	239.192.0.201	
Destination Port:	10000	\$
Source IP Mode:	Auto	Ŧ
Source IP:	0.0.0.0	
Source Port:	3020	-
Source MAC Mode:	Auto	Ŧ
Source MAC:	00:00:00:00:00:00	
TS Packets Mode:	Auto	Ŧ
TS Packets Per IP Packet:	7	÷
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	~
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):	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	*
Passphrase:		
	Apply	Cancel

SRT Output Settings

Settings	Range	Description
Call Mode	Caller	Defines the 'handshake' mechanism to be
	Listener	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
	Manual	assigned automatically
		In Manual mode, the local port number will
		be defined by the user
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 Packets Mode	Auto	In Auto mode, the source will define the
	Manual	number of TS packets per SRT packet.
		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
	AES-128	or if the CP2-IP-00 will automatically detect this.
		· -
	AES-256	

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.

nfigure Channel Add I	nput Add Ou	tput Switch to E	Backup Input					Rem	iov
Input Selection	Active: SRT	Receive 1 Primary	: SRT Receive 1 Backup	x None					
🥔 Input 1 (SRT)		Interface: eth0	255.255.255.255.65	535	Call Mode:	Caller	×	0.000 Mbps	
Ø 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):	0	Received NAKs:	0						
Maximum Bandwidth:	0.000 Mbps								
Path Maximum Bandwidth:	0.000 Mbps	Last Reset:	2021-04-26 01:24:12						

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 Er	ror:	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	Defines which encryption standard to use
	AES-128	or if the CP2-IP-00 will automatically detect this
	AES-192	
	AES-256	
	Automatic	
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 Interface Mode	Allows user to define parameters and 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	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

Interface Bonding Boxes

Primary

8

eth2

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		Ŧ
Transmit: Interface: VLAN: Profile Mode: Tunneling Mode: Destination IP: Destination Port: Source Port: Latency (ms): FEC Transmission: FEC Columns: FEC Columns: FEC Rows: Encryption Mode: Passphrase: Ignore TLS Certificate Error:		Enabled		Ŧ	
			eth0		* * * * * * * * * * * * * * * * * * * *
		None			
			Simple Full Datagram		
		1.0.0.1			
			10000 3020 1000		
		[
		1000 Off			
				Ŧ	
		4			÷
			4 Disabled Do Not Ignore		
Bonding Mode:			Disabled		Ŧ
Interface 🕇	Ban	dwidth L	.imit(Mbps)	Priority	
Internal	8			Primary	
eth0	8			Primary	
eth1	8			Primary	
eth2	8			Primary	

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 One Interface	Specifies which interfaces, if any, are to be set to bonding mode. Bonding Mode settings cannot be chosen when Encryption Mode is set to DTLS.
	Any Interface	

Interface Mode

details about the port(s) when bonding

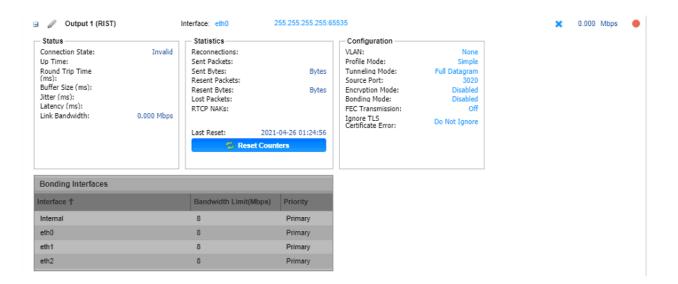
Any Interface Mode

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.

Ch	anr	nel 1		_								0
C	onfig	gure	Channel Add Inpu	It Add Output	Switch to Bac	kup Input					Remo	ove
		P	Input Selection	Active: MPEG/IP Rece	ive 1 Prima	ry: MPEG/IP Receive 1	Backup: None					
Œ	, (P	Input 1 (MPEG/IP)	Interface:	eth0	239.192.0.200:10000		FEC: Not Present	×	0.000	Mbps	•
æ	, (a de la constancia de la c	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 (MPEG/IP) 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 F	
🗉 🥜 Input 1 (SRT) Interface: eth0	Apply Cancel

Settings	Range	Description			
Input	Input 1	Used for both normal operation and input			
	logut 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			
	Input 2	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 Pr	imary Input			Remove
Input Selection	Active: None Primary: MPEG/I	Receive 1 Backup: None			
🗄 🥒 Input 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mbps 🔴
🗉 🥒 Input 2 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mbps 🔴
🕀 🖉 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					٥
Configure Channel Add Inpu	ut Add Output Switch to F	Primary Input			Remove
Input Selection	Active: None Primary: MPEG/	IP Receive 1 Backup: None			
🗉 🥒 Input 1 (MPEG/IP)	Interface: eth0	239.192.0.200:10000	FEC: Not Present	×	0.000 Mbps 🔴
 Output 1 (MPEG/IP) 	Interface: eth0	239.192.0.200:10000		×	0.000 Mbps 🛛 🔴
Output 2 (MPEG/IP)	Interface: eth0	239.192.0.201:10000		×	0.000 Mbps 🔴

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.

							Basic Setting	Logs	System		
Reportin	ng Control Pan	el									
Alarms	Logs								Configure		
State	Name				Location		Last Changed				
0	Transport Strea	am Not Pres	ent		Gateway Receive 3 (Gatew	ay 3)	2012-01-17 05:16:48				
0	Transport St								Basic Setting	Logs	Syste
0	Transport SI										-,
0	Transport SI	Reportin	ng Control Panel								
0	SRT Receiv	Alarms	Logs								Configu
0	SRT Transm	🔁 Refre	sh 📕 Clear	B Download							
0	RIST Receiv			Transition	1fi						
•	DICT T	Severity	Timestamp	Transition	Location	Message					
		0	2021-05-07 07:55	a 🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	Peer Create Failed.				
		0	2021-05-07 07:55	a 🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	None				
		0	2021-05-07 07:55	a 🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	Peer Create Failed.				
		0	2021-05-07 07:55	c 🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	None				
		0	2021-05-07 07:55	a 🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	Peer Create Failed.				
		0	2021-05-07 07:55	a 🗙	Gateway Transmit 1 (Ga	SRT Transmit Connection Error:	The discovery timeout duration has elaps	sed.			
		0	2021-05-07 07:54	t 🗙	Gateway Transmit 1 (Ga	RIST Transmit Connection Error	None				

Alarms

			Basic Setting Logs System
Reporti	ng Control Panel		
Alarms	s Logs		Configure
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
Reporting Control Panel				
Alarms				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.

Conditions Events					
lame 🕇	Location †	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		Error	\checkmark	
LS Receive Connection Error	Gateway Receive 1 (Gateway 1)	\checkmark	Error	\checkmark	
LS Receive Connection Error	Gateway Receive 1 (Gateway 3)	\checkmark	Error	\checkmark	
LS Receive Connection Error	Gateway Receive 1 (Gateway 4)	\checkmark	Error	\checkmark	
ILS Receive Connection Error	Gateway Receive 1 (Gateway 5)		Error	\checkmark	
LS Receive Connection Error	Gateway Receive 1 (Gateway 6)		Error	\checkmark	
IPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 1)		Error	\checkmark	
IPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 3)	\checkmark	Error	\checkmark	
IPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 4)		Error	\checkmark	
IPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 5)		Error	\checkmark	
IPEG/IP Transmit Unicast Rec	Gateway Transmit 1 (Gateway 6)	\checkmark	Error	\checkmark	
MDEQ/ID Transmit Inicast Das	Cotaway Transmit ? (Cotaway 1)		Error	Z	

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

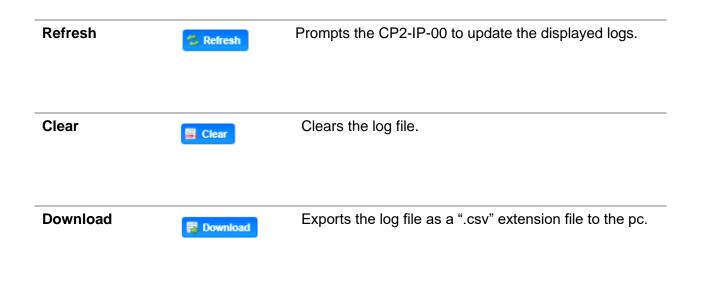
Events			
Column Name	Description		
Name	Defines the error message that will be provided if the instance is detected.		
Location	This will always be "Unit" since these instances are global		
Log	A checked box defines which instances will be recorded to the log file.		
SNMP Trap	A checked box defines which instances will trigger the CP2-IP-00		

module to send a trap message.

Event Logs

				Basic Sett	ing Logs	System
Reportin	g Control Panel					
Alarms	Logs					Configure
ち Refre	sh 📕 Clear 🙀	Download				
Severity	Timestamp	Transition	Location	Message		
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	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.	-	0-1	This Transmit Association France The control shows the discounted		

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 ¹ icon means the message is Informational and no error has been detected.
	The ^{I 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 ^{Went Bad} icon means the instance entered into an Error state. The ^{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 🛛 🗊 Reboot 🛛 🤔 Reset to Defaults

O Add Upload Last Profile App				oplied:
Profile Name 🕇		Download	Rename	Delete
Receive_Profile		1	6	×

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	le 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	a	Used to edit the selected profile name
Delete Profile	×	Used to delete a profile from the profiles list
Download Profile	1	Used to download a profile selected from the list to the user pc

SNMP MIB files

System Control Panel	
Profiles SNMP MIBs 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.

CMP201	×	S Index of /mibs/		× +
→ C 🔺 🛪	安全 192.168	.1.12/mibs/		
应用 🌼 设置 📒	从 IE 中导入	已导入		
dex of /mibs/				
Name Parent Directory/		Last Modified	Size	Type Directory
INET-ADDRESS-MI	B.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-MIE	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-FRAMEWORI	(-MIB.MIB	2021-Apr-23 09:11:44	21.8K	application/octet-stream
SNMP-MPD-MIB.MI	в	2021-Apr-23 09:11:44	5.3K	application/octet-stream
SNMP-TARGET-MIE	.MIB	2021-Apr-23 09:11:39	22.2K	application/octet-stream
SNMP-USER-BASE	-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

Diagnostics

System Control Panel Profiles SNMP MIBs Disgnostics 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 Nam	e:
Generate New CSR File:	Generate
Download Generate CSR File:	Download
Delete Old CSR File:	Delete
Delete Old Local Private Key File:	Delete
Local Certificate File:	1 Uploa
Local Private Key File:	† Uploa
Remote Certificate File:	1 Uploa

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 Na	me:	0.0.0.csr
Generate New CSR File:		Generate
Download Generate CSR File:		Download
Delete Old CSR File:		Delete
Delete Old Local Private Key File:		Delete
Local Certificate File:		1 Upload
Local Private Key File:	private_key.pem	1 Upload
Remote Certificate File:		1 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	† Upload
Remote Certificate File:		1 Upload

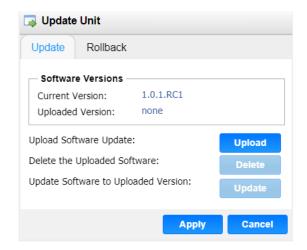
Uploaded Key and Certificate Files

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 MIBs Disgnostics Security Update Unit 🗊 Reboot	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		
This feat previousl revert to	Rollback? ure will roll the unit so y installed version. Th their configuration pr will initiate a reboot.	e unit's sett	ings will
'	Installed Version: reviously Installed Ve	_	.0.0.RC4 Rollback
		Apply	Cancel

Reboot the Unit

System Control Panel Profiles SNMP MBs Diagnostics Security		Update Unit 📑 Reboot 😤 Reset to Defaults
	Reboot Are you sure you want to reboot the unit	Sit?
	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.

Network	Configure Networks							٥
Configure Networks Hostname:	Hostname:	(none)		.7		Config	jure Network	Services
Name	Default Gateway:	eth0	Ŧ	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
					A0:69:86:04:7C:28	N/A (Down)	0.000	0.000
Internal (eth3)		Apply C	Cancel	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	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								Reboot 🥵	Reset to Defa	ults
Name	Configure eth0						atus	Tx Rate	Rx Rate	
eth0	Interface Name	e: eth0					own)	0.000	0.000	
🖉 eth1	Mode:	Static		*			own)	0.000	0.000	
@ eth2	Static Settin	gs					own)	0.000	0.000	
Internal (eth3)	IP Address:	192.1	68.1.206				(Up)	0.000	0.000	
Jicense Information	Subnet Mask	255.2	55.255.0						0	
Apply License Key	Gateway:	192.1	68.1.254				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	
					Appl	y Cancel				-
					Appl	Cancel				

Setting	Available Selections	Descriptions
Interface Name	User Entered	User defined port names
	(eth0/eth1/eth2/Internal)	
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.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.

Add VLAN	
VLAN Name:	VLAN 1
VLAN Tag ID:	1 \$
IP Address:	192.168.1.1
Subnet Mask:	255.255.255.0
Gateway:	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

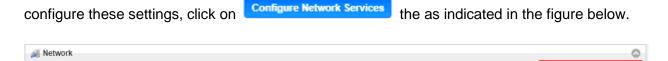
row. To remove all created VLANs, click the Remove All button.

Hostname: (none) Default Gateway: eth0 Primary Nameserver: 10.100.20.7

Configuring Network Services

Configure Networks

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.

	Service 🕇	Protocol	Port	eth0	eth1	eth2	eth3
~	HTTP	TCP	80	1	2		~
\checkmark	ICMP	ICMP	N/A	\checkmark	Z		\checkmark
	SNMP	UDP	161				
	SNMP Traps	UDP	162				
\checkmark	SSH	TCP	22	\checkmark		\checkmark	\checkmark
~	Stream I/O	N/A	N/A	\checkmark	\checkmark	\checkmark	\checkmark
	Syslog	UDP	514				

Service	Protocol	Port	Descriptions
HTTP	TCP	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	Biter License Key		Software Su	ipport Agreer	nent Expiration:	2022-04-27
Option	Enter a new license key here		S	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*.

-02					Input Output System S
				Status Basic Setting	IGMP Setting Service Configu
					Port 1
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	۲	i=
1.3	227.30.30.3 : 10003	3.716	3.716	۲	
1.4	227.30.30.4 : 10004	3.716	3.716	۲	i=
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	III
1.9	227.30.30.9 : 10009	3.716	3.716	۲	
1.10	227.30.30.10 : 10010	3.716	3.716	۲	i =
1 11	227 30 30 11 - 10011	3 716	3,716	Ô	:=

IP Input >Status

In this page, you can check info of each channel: Total Bit Rate, Effect Bit Rate, TS Analysis and Service List.

				Inp	ut Output System Settin
				Status Basic Setting IGMP :	Setting Service Configuration
					Port 1 Port
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	I
1.2	227.30.30.2 : 10002	3.726	3.726	۲	I
1.3	227.30.30.3 : 10003	3.716	3.716	۲	12
1.4	227.30.30.4 : 10004	3.716	3.716	۲	I
1.5	227.30.30.5 : 10005	3.716	3.716	۲	i i
1,6	227.30.30.6 : 10006	3.716	3.716	۲	I
1.7	227.30.30.7 : 10007	3.716	3.716	۲	1
1.8	227.30.30.8 : 10008	3.716	3.716	۲	IE
1.9	227.30.30.9 : 10009	3.716	3.716	۲	I
1.10	227.30.30.10 : 10010	3.716	3.716	۲	IE
1 11	227 30 30 11 - 10011	3 716	3,716		

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.

			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	
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)
Observal + 1.1	PCR	8190	0.044
Channel : 1.1	PMT	258	0.018
Service	Video(MPEG2)	513	4.899
f Service	Audio	660	0.256
[302] CCTV 2		Class	
2 [303] CCTV 7		Close	

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.

P-IP-02									Input O	utput	System Set
							Status	Basic Setting	IGMP Setting	Service	e Configural
	_									P	ort 1 Po
ch Setting /	^										
Select A	II		S	tart Channel-End Channel	1	- 128					
🗆 Enabl	e	Disable		Destination IP Address	227.10.20.80	Same	Ψ				6
Proto	col	UDP	-	Destination Port	1234	Same	-				Appl
			C	Pkt Length Batch Setting	7	Y					
< 1	2 3 4	5 6 7 8	>	Batch Setting							
< 1	2 3 4 Enable					Protocol		F	Pkt Length		
			>	Batch Setting					Pkt Length	•	
Channel	Enable	Destinat	>	Batch Setting Destination Por	t		•	Auto	⁹ kt Length	T T	
Channel 1.1	Enable	Destinat	>	Batch Setting Destination Por 10001	t			Auto Auto	²kt Length		
Channel 1.1 1.2	Enable 2 2	Destinat 227.30.30.1 227.30.30.2	>	Batch Setting Destination Por 10001 10002	t UDP		•	Auto Auto Auto	Pkt Length	-	
Channel 1.1 1.2 1.3	Enable 2 2	Destinat 227.30.30.1 227.30.30.2 227.30.30.3	>	Destination Por 10001 10002 10003	t UDP		•	Auto Auto Auto Auto	Pkt Length	•	
Channel 1.1 1.2 1.3 1.4	Enable C C C C C C C	Destinat 227.30.30.1 227.30.30.2 227.30.30.3 227.30.30.4	>	Destination Por 10001 10002 10003 10004	t UDP UDP UDP UDP		•	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.

P-IP-02						Input Output	System Setting
				Status	Basic Setting	IGMP Setting Set	rvice Configuration
					-		Port 1 Port 2
h Setting	`						
Select Al	I.	C Star	t Channel-End Channel	1 - 128			
🗌 Enable	Ð	Disable 💌 🗆 D	estination IP Address	227.10.20.80 Same 💌			
Protoc	ol		estination Port	1234 Same 🔻			Apply
		_ P	kt Length Batch Setting	7 *			_
		5 6 7 8 >	Batch Setting			2kt Lanath	
hannel	Enable	5 6 7 8 > Destination IP Address	Batch Setting Destination Port	Protocol		²kt Length	
		5 6 7 8 >	Batch Setting		Auto		
hannel	Enable	5 6 7 8 > Destination IP Address 227.30.30.1	Batch Setting Destination Port 10001	Protocol	▼ Auto	•	
thannel 1.1 1.2	Enable	5 6 7 8 ≥ Destination IP Address 227.30.30.1 227.30.30.2	Batch Setting Destination Port 10001 10002	Protocol UDP UDP	Auto Auto	•	
Channel 1.1 1.2 1.3	Enable 2 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 UDP	 Auto Auto Auto Auto 	- - 	
Channel 1.1 1.2 1.3 1.4 1.4	Enable C C C C	5 6 7 8 ≥ Destination IP Address 227.30.30.1 227.30.30.3 227.30.30.3 227.30.30.4	Destination Port 10001 10002 10003 10004	Protocol UDP UDP UDP UDP	Auto Auto Auto Auto Auto Auto	- - - -	

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					Apply
							Abbiy

IP Input >Service Configuration

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

CP-IP-02			Input Output System S
		S	Status Basic Setting IGMP Setting Service Configu
			Port 1 Port 2
Channel Select : Channel 1.1	Scanning Time(ms) : 1000	Program Scan	
Service Name		Destination	Destination Setting
Channel 1.1	+	3.CP-IP-02[1.1]	¢ ^
[713] Bloomberg European TV			/
PID 1 (CAT)			/ CO
Channel 1.2	+	3.CP-IP-02[1.2]	٥
[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]	٥
[713] Bloomberg European TV			1
PID 1 (CAT)			1
Channel 1.5	1	3 CD ID 03(4 K)	8

- 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	utput System	n 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	۲					
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					
1.10	227.20.1.10 : 1234	3.737	5.000	Normal	•					
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	•					
1.14	227.20.1.14 : 1234	3.758	5.000	Normal	۲					
1.15		0.7.17	= 000		-		2			

IP Output >Basic Settings

Setting IP output channels is also similar to Setting IP input.

	2											Input	Outp	ut Syste	m Sett
											Statu	IS Basic Se	tting	Service Con	figurat
														Port 1	Po
ch Setting	L^														
Select	All		Start	Channel-End Chan	nel		1	-	128						
🗆 Enat	ble	Disable	- D	estination IP Addres	s		227.10.20.80		Same	*					-
🗌 Sour	rce Port	1000		estination Port			1234		Same	*					App
Prot	ocol	UDP	* 🗌 Pi	kt Length			7	٣							-
🗌 Bitra	te(Mbps)	25	🗆 Er	nable Destination M	AC		Disable	*	AA:BB:C	C:DD:EE:Ff					
	100														
	2 3 4	(ms)	8 >	Destination Port	Protoc	al	Bit Langth	Dite	te/	Epoble	Dectination MA	C Destina	tion MA		
< 1 Channel	2 3 4 Enable	5 6 7 Source Port	8 > Destination IP Ad	Destination Port	Protoc		Pkt Length		ite(Destination MA		ition MA	c	
< 1 thannel	2 3 4 Enable	5 6 7 Source Port	8 > Destination IP Ad	1234	UDP	ol	7	5	ite(Disable	Destination MA	▼ 01:00:5E:	14:01:01	c	
< 1	2 3 4 Enable	5 6 7 Source Port	8 > Destination IP Ad						ite(Destination MA		14:01:01	c	
< 1 Channel	2 3 4 Enable	5 6 7 Source Port	8 > Destination IP Ad	1234	UDP	•	7	5	ite(Disable	Destination MA	▼ 01:00:5E:	14:01:01	¢	

- 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 Sei	tting Service Configura	atio
atch Settin	<u>a</u> ^											
Select Al	1			Start C	hannel-	End	Channel	1		- 120		
Enabl	e	Disable	-	🗆 Des	tination	IP A	ddress	227.10.	20.80	Same	¥	
Sourc	e Port	1000		🗌 Des	tination	Port		1234		Same	*	
Proto	col	UDP	-	🗌 Pkt	Length			7	-			
Bitrate	Э	25	(Mbps)	🗆 Ena	ble Dest	tinati	on MAC	Disable	*	AA:BB:CC:DD:EE	:FF	
K Interval:	100	(ms)	Batch								
		4 5 6 7		_								
< 1			8 >	Destination	Proto	col	Pkt Length	Bitrate(Enable D	estination MAC	Destination MAC	
< 1	2 3	4 5 6 7	8 >		Proto	col	Pkt Length	Bitrate(Enable De Disable	estination MAC	Destination MAC 01:00:5E:28:0A:14	
Channel	2 3 Enable	4 5 6 7 Source Port	8 > Destination IP A	Destination			Concession a nne	STRUCTURE				
Channel	2 3 Enable	4 5 6 7 Source Port	8 > Destination IP A 239.166.10.20	Destination	UDP	•	7	15	Disable	-	01:00:5E:28:0A:14	
Channel 1.1 1.2	2 3 Enable	4 5 6 7 Source Port 1000	8 > Destination IP A 239.168.10.20 239.168.10.30	Destination 10000	UDP UDP	•	7 • 7 •	15	Disable	•	01:00:5E:28:0A:14 01:00:5E:28:0A:1E	

IP Output >Service Configuration

You can make configuration for output services and TS.

CP-IP-02		Input Output Sy	/stem Se
		Status Basic Setting Service C	Configura
		Port 1 Port 2	
Click "Apply" after modifying your parame	eters to save the configuration	×	
			Ap
[1.1] TS	* ^ *	[1.1] TS	
1. Bloomberg European TV	3.1.1	Original Network ID 1337	Cle
[1.2] TS	* ^	TS ID 30	
1. Bloomberg European TV	312		
[1.3] TS	* ^	NO. Service ID Service Name Service Provider	
1. Bloomberg European TV	3.1.3	1 713 Bloomberg European TV Arqiva	
		Other PIDs	
[1.4] TS 1. Bloomberg European TV	* ^ 31.4	1	
1. Diodiliberg European 14		OK Cancel	
[1.5] TS	* ^	OK Cancel	
1. Bloomberg European TV	3.1.5		
[1.6] TS	* ^		
1. Bloomberg European TV	3.1.6		

- 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 Decode Module

5.5.1 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.*

D-SDI-00					Status In	nput Decode System S
						IP Input Status Decode S
tal Bitrate: 9.843 Mbps						
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
Channel 1.1	IP Address: Port 227.10.20.31 : 10000	Status	Effective Bitrate(Mbps) 9.105	Total Bitrate(Mbps) 9.843	TS Analysis	Service List
1.1	227.10.20.31 : 10000	•	9.105	9.843	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 In	put Decode System Setting
						IP Input Status Decode Status
Total Bitrate: 10.001 Mbps						
Channel	IP Address: Port	Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	
					1 5 Analysis	Service List
1.1	227.10.20.31 : 10000	•	9.252	10.001	()	
1.1 1.2	227.10.20.31 : 10000 0.0.0.0 : 0	•	9.252	10.001 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.

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 Channel
	8.911	89.956	127	PCR、Video	td HD Phx Chinese Channel
0x24(36)		0.192	127	PMT	td HD Phx Chinese Channel

Service List

Click a service name to check its detailed info.

	Туре	PID	Bitrate(Mbps
Channel: 1.1	PCR	36(0x24)	9.141
onamer. 1.1	PMT	37(0x25)	0.018
Service	Audio	35(0x23)	0.202
[2] td HD Phx Chinese Cha	Video(H264)	36(0x24)	9.141

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	0						Status	Input	Decode	System Setting	
								IP Inp	ut Status	Decode Status	
Channel	Status	Source	Service	Video					Audio		
onanner	otatus	Source	Gervice	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 (MP	EG2 AAC -	kbpsKHz)	
2	٠	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 Decode	System Setti
							Ва	asic Setting Serv	ice Configurati
ch Setting ^									
Select All			Start Channel-End Channel	1	- 4				
Enable		Disable 💌	Destination IP Address	227.10.20.80	Sa	me 💌			
Protocol		UDP 👻	Destination Port	1234	Sa	me 💌			
			Dist Lawath	7					
			Pkt Length Batch Setting	7	Y				Ap
< 1 >				7	•				App
< 1 > Channel	Enable	Destination IP Address		7 Protocol	•	Pkt Length	Input Proce	essing Mode	App
	Enable	Destination IP Address 227.10.20.100	Batch Setting			-	Input Proce	essing Mode	Ap
Channel			Batch Setting Destination Port	Protocol		Auto		-	Ap
Channel 1.1		227.10.20.100	Batch Setting Destination Port	Protocol	•	Auto Auto	▼ CBR	-	Ap

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 💮 I	nput	۞ C	utp
Input				Sta	itus	IP Setti	ng
Total Bitrate	e: 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				Sta	atus Input De
						Basic Setting
atch Setting	y 🗸					
< 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	out Decode System Setting
						IP 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		0.000	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

			Status	Constraint of the second secon	్ర్ప్ Outp	ut 🛛 🎡 System S	etting 📃 🧕 age
Input				Status	IP Setting	IGMP Setting	Service Configurat
nannel Select: Channel 1.1 Program Clear	Scanning	Time(ms): 1000	PSI Search Time(ms)	s): 5000		Program Scan	
Service Name			Destination			Destination Settin	ng Appl
> Channel 1.1	+					¢	
✓ Channel 1.2	+		2.CD2-SDI-00[1.1]			Φ	
[1] Program0						1	Clea
PID 17 (Other PID)						1	
> Channel 1.3	+					¢	

> In CD2-SDI-00 Decode page can pick the service program

CD2-SE	DI-00						Status Input	Decode	System Se
🌣 Advance	ed Setting >				Process	sina		Clear	
Channel	Service	Aud	lio	Format Mode	Manual Format	Audio State	Audio Volume	Service	Ар
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 In	out Status	Decode Status
Channel	Status	Source	Service		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)	P	ID:257 (N	PEG2 AAC	-kbpsKHz)
2	٠	None	None			-				
3		None	None	-		-				
4	٠	None	None			-				

CD2-SDI-00 supports transport with the following protocols: UDP, RTP.

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

Multicast:	
224.0.0.0	
~239.255.255	
.255	
Unicast:	
terminal IP	
address	
1~65535	
0 —	Need to be higher than the video
30000Kbps	bitrate
	224.0.0.0 ~239.255.255 .255 Unicast: terminal IP address 1~65535 0 –

3. Other Setting

Settings	Range	Description
Pkt Length	Auto	It represents the length or size of
	1–7	packets transmitted in network
		communication.
Input Processing	CBR	CBR:Constant Bit Rate.The
Mode	VBR	transmitted data stream is sent or
	Dejittering-C	encoded at a constant bit rate.
	BR	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.

							Status Input	Decode System S
							Basic S	setting Service Configu
Setting ^								
Select All			Start Channel-End Channel	1	4			
Enable		Disable 💌	Destination IP Address	227.10.20.80	Same	•		
	l.	UDP -	Destination Port	1234	Same	-		
			Pkt Length	7				
			Batch Setting	<i>p</i>				A
< 1 > Channel	Enable	Destination IP Address		Protocol		Pkt Length	Input Processing	
	Enable 🔽	Destination IP Address 227.10.20.100	Batch Setting	Protocol	▼ Auto	Pkt Length		
Channel			Batch Setting Destination Port		 ✓ Auto ✓ Auto 	-	CBR	g Mode
Channel 1.1		227.10.20.100	Batch Setting Destination Port 10000	UDP		•	CBR CBR	g Mode

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 S
		Basic Setting Service Configur
hannel Select: Channel 1.4	Scanning Time(ms): 1000 OSI Search Time(ms): 5000 Program Scan Program Clear	
Service Name	Destination	Destination Setting
V Channel 1.1	12.CD-SDI-00[1.1]	\$
[1] Wellav service		/ (A
Channel 1.2	12.CD-SDI-00[1.2]	\$
[1] Service01		
Channel 1.3	12.CD-SDI-00[1.3]	\$
[1] Thairath HD		/
Channel 1.4	12.CD-SDI-00[1.4]	0
[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.
- \succ Multiplex services: You should click the service line setting icon (\checkmark) 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		×
✓ 12.CD-SDI-00	Channel1	Multiplex	Bypass
	Channel2	Multiplex	🖌 Bypass
	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 Se
	Service Select					Processi	ng			Clear	
Channel	Service	Aud	lio	Format Mode		Manual Format	Audio Sta	te	Audio Volume	Service	Ар
1	[17.1.2] Program0 (Service ID: 1)	• 4112	•	Automatic -	72	0x480i 16x9 29.97fps 👻	Enable	•	100	×	
2	None	None	-	Automatic -	72	0x480i 16x9 29.97fps 🔻	Enable	•	100	×	
3	[17.1.2] Program0 (Service ID: 1)	None	-	Automatic -	72	0x480i 16x9 29.97fps 🔻	Enable	•	100	×	
4	None	▼ None	-	Automatic		0x480i 16x9 29.97fps 🔻	Enable	•	100	×	

Decode Setting

Settings	Range	Description	
Audio	None	Audio format	
	digital		
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
MER MIB	
	Modulation Error Ratio
MIB	Modulation Error Ratio Management Information Base
MIB MPTS	Modulation Error Ratio Management Information Base Multi-program Transport Stream
MIB MPTS NIT	 Modulation Error Ratio Management Information Base Multi-program Transport Stream Network Information 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 CMP201D 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.