

User Manual

Brighten Your Digital View!





EN-8000

8-way H.264 HD/SD Encoder and Modulator Series

Contents

1. Features and Order Information	2
2. ModelList	2
3 Specifications	3
4.Web Server	6
4.1 Login	6
4.2 Status	6
4.3 TS/IP	7
4.4 Remux	17
4.5 System	19
4.6 Configuration	24
5 Installation	27
6 Accessories	

1. Features and Order Information

- Complies with H.264/AVC HP@L4.0 & MPEG-2 MP@ML
- Built-in reMUX handles MPTS and SPTS
- Three TS/IP modes
- Single 128-way IPTV output @ 400Mb/s
- Dual 32-way IPTV output, one main and one redundant, 200Mb/s each
- Full duplex DVB MPTS TS/IP with ProMPEG FEC, 80Mb/s each way
- Audio encoding standards: MPEG1-L2, MPEG-2/4 AAC-LC/HE-AAC;
- RF total output level 120dBµV;
- SNMP and HTTP remote control
- Dual redundant power supplies

2 Model List

	Description	RF Output	Encoder Input	Encoder Way	TS/IP (Full Duplex /IPTV Output)	AAC (Audio Encode)
1	EN-8000-80HC	DVB-C				
2	EN-8000-80HT	DVB-T	HDMI	8	Ν	Y
3	EN-8000-80HT2	DVB-T2				
4	EN-8000-82HC	DVB-C				
5	EN-8000-82HT	DVB-T	HDMI	8	Y	Y
6	EN-8000-82HT2	DVB-T2				
7	EN-8000-40HC	DVB-C				
8	EN-8000-40HT	DVB-T	HDMI	4	Ν	Y
9	EN-8000-40HT2	DVB-T2				
10	EN-8000-42HC	DVB-C	HDMI	4	Y	Y

11	EN-8000-42HT	DVB-T				
12	EN-8000-42HT2	DVB-T2				
13	EN-8000-80SC	DVB-C				
14	EN-8000-80ST	DVB-T	SDI	8	N	Y
15	EN-8000-80ST2	DVB-T2				
16	EN-8000-82SC	DVB-C				
17	EN-8000-82ST	DVB-T	SDI	8	Y	Y
18	EN-8000-82ST2	DVB-T2				
19	EN-8000-40SC	DVB-C				
20	EN-8000-40ST	DVB-T	SDI	4	N	Y
21	EN-8000-40ST2	DVB-T2				
22	EN-8000-42SC	DVB-C				
23	EN-8000-42ST	DVB-T	SDI	4	Y	Y
24	EN-8000-42ST2	DVB-T2				
25	EN-8000-80CC	DVB-C				
26	EN-8000-80CT	DVB-T	CVBS&Audio	8	N	N
27	EN-8000-80CT2	DVB-T2				
28	EN-8000-82CC	DVB-C				
29	EN-8000-82CT	DVB-T	CVBS&Audio	8	Y	N
30	EN-8000-82CT2	DVB-T2				
31	EN-8000-40CC	DVB-C				
32	EN-8000-40CT	DVB-T	CVBS&Audio	4	N	N
33	EN-8000-40CT2	DVB-T2				
34	EN-8000-42CC	DVB-C				
35	EN-8000-42CT	DVB-T	CVBS&Audio	4	Y	N
36	EN-8000-42CT2	DVB-T2				

3 Specifications

Video Inputs & Compression	
Video Input Interfaces	HDMI x 8 / HD-SDI x 8, or CVBS RCA-female $75\Omega \times 8$ (see the model numbers)
Video Compression	H.264/AVC HP@L4.0 & MPEG-2 MP@ML
Chrominance Sampling Format	4:2:0

Video Resolutions & their	1080i(1920×1080)@25Hz,29.9/Hz:SMPTE2/4M: 1~13Mb/s
Recommended Compression Bit	720p(1280×720)@50HZ;59.94HZ::SMPTE296M: 1~13MD/s
	4001 (120×460) @29.97HZ.SMFTE050W.000K~0WD/S
11.204	
Video Resolutions & their Recommended Compression Bit	480i(720×480)@29.97Hz:SMPTE656M: 3.5~8Mb/s
Rates MPEG-2	576i(720×576)@25Hz: SMPTE656M: 3.5~8Mb/s
Video Scaler	Manually adjustable,
Aspect Ratio	4:3 or 16:9
Audio Inputs & Compression	
Audio Inputs	HDMI/SDI Embedded or Analog RCA (see model numbers)
	MPEG1 Layer II
Audio Compression	MPEG-2/4 AAC-LC/HE-AAC(V1,V2)
Sampling Rate	48KHz
	MPEG1 Layer II :32~192Kbps(mono), 64~384Kbps(Stereo),
Comprossion Bit Data	MPEG2/4 AAC-LC :24~256Kbps(mono), 48~512Kbps(stereo)
Compression bit Rate	MPEG2/HE-AAC(V1,V2):16~128Kbps(mono),
	32~256Kbps(stereo)
TS/IP, Mode 1: Single Port, Full	Duplex
Standard	IEEE 802.3, 10/100/1000 Base-T
Maximum Bit Rate	80Mb/s in + 80Mb/s out
Data Encapsulation	UDP, RTP, SPTS or MPTS
Protocol	ICMP, ARP, IGMPv2/v3
TS/IP, Mode 2: 128-way IPTV ou	utput (Single Port)
Standard	IEEE 802.3, 10/100/1000 Base-T
Maximum Output Bit Rate	400Mb/s
Data Encapsulation	UDP, RTP, SPTS or MPTS
Protocol	ICMP, ARP, IGMPv2/v3
TS/IP, Mode 3: 32-way IPTV out	put (Dual Port as redundant output)
Standard	IEEE 802.3, 10/100/1000 Base-T
Maximum Output Bit Rate	200Mb/s+2000Mb/s (200Mb/s each Port)
Data Encapsulation	UDP, RTP, SPTS or MPTS
Protocol	ICMP, ARP, IGMPv2/v3
RF Output	
Output Interface	F-female, 75Ω
Output Frequency Range	100 ~ 862MHz, step by 10 KHz
Output Level	90∼120dBµV <u>+2</u> dB, step by 1dB
Spurious Rejection	>55dBc @ 120dBuV

Return Loss	≥12dB (typ.)
Interfaces on Rear Panel	
HDMI Inputs	HDMI (see model list) x 8
HD-SDI Inputs	BNC Female, 75Ω x 8
CVBS & Audio Inputs	RCA Female, 75Ω (see model list) x 8
RF Output	F-female, 75Ω x 1
Interfaces on Front Panel	
Control/IP	RJ-45, 10/100 Base-T x 1, USB x 1
TS/IP	RJ-45, 10/100/1000 Base-T x 2: 1 Backup Output Only
Display	2x16 LCD module
RF Monitor -20dB	F-female, 75Ω x 1
General	
Power Supply Input Voltage	AC100~260V 50/60Hz
Operating Temperature	0~40°C
Storage Temperature	-10 ~ 60 °C
Humidity	10 ~ 90%, (Non-condensed)

4.Web Server

4.1 Login

Enter the IP address of the EN-8000 on to URL row on any web browser, there will be a popup showed and asking for login user and password. The default user name and password are "root" and "12345", respectively. The username and password can be changed by user via front panel or via submenu under the system web page. If the username and password are forgotten, user have to set a new one via front panel.

Headend Device Management	Syntam 3. 1.0-164		• • - # ×
Q Q Q 🗱 🕷			
(m) Bevtoe Runager	Inputagy (News) Conferences and International States		E+
The last of the la	Ten Per INNE Top 245	Windows 安全 × java.exe 服务器 10:10:20:48 時間水回輸入用小名和回転, 服务器 現在公生台。 智治: 將在不安全的加盟上使用基本条約協定加速公司用小名和回転, 「○○○」 ○○○」 ○○○」 ○○○」 ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○○□ ○□ >	() () () () () () () () () () () () () (
	Alaus Ide Bartes An	29 Decise None Trave Trave Trave	Clafeth Thumpelli Clayer() Critical() V Resolution The Resolution
S Alara Barager			

Login

4.2 Status

Via the status page, user can have an overview of the current status of the connected EN-8000, Include Input Bit Status,Input Format,Input Bit Status, TS/IP Status,Power Status,Modulator Status.

💫 Headend Device Manage	ement System 3.1	1.1-b2- x 64						4 0 - 2	×
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🔲 Device Manager 🔶 +	Iopology [Home]	81EC@10.10.70).48 🗙						R-
ې 🔍	Web Page Remux								
Devices List [1 live/1 sum]									
□ 3. 10.10.70.1 [1 live/1 su	1			TD Add		070 049			
 • Device Uptime:20 de 				IP Add	ress:010.010	.070.048			
 Device Type:8-Way E Device TP:10, 10, 70. 	Status	TS/IP	Remux	Configuration	System				
 Device MAC:00:33:12 	Encoder Bit Rat	te							Â
	Input Format				Encoder	Bit Rate			
	TS/IP Status								
	Power Status	Encod	ler Bit Rate						
	Modulator State	• 6	Encoder 1	Total Bit Rate (Kb/s)	003096	Valid Bit Rate (Kb/s)	003096		
			Freedor 0	Total Dit Data (Mb/a)	000000	Valid Dit Data (Kh/a)	000000		
		• •	LILUUGEI*2	Total bit Rate (Rb/s)	000000	valu bit Rate (Rb/s)	000000		
		• 1	Encoder-3	Total Dit Rate (Kb/s)	000000	Valid Dit Rate (Kb/s)	000000		E
		• •	Encoder-4	Total Bit Rate (Kb/s)	000000	Valid Bit Rate (Kb/s)	000000		
		• 6	Encoder-5	Total Bit Rate (Kb/s)	000000	Valid Bit Rate (Kb/s)	000000		
		• 6	Encoder-6	Total Bit Rate (Kb/s)	000000	Valid Bit Rate (Kb/s)	000000		
		• •	Encoder-7	Total Bit Rate (Kb/s)	000000	Valid Bit Rate (Kb/s)	000000		
		• 1	Encoder-8	Total Bit Rate (Kb/s)	000000	Valid Bit Rate (Kb/s)	000000		
									-
	Alura Info						Info(0) Harning(0)	Major(0) Critical(0)	¥
	Status	Ack		IP	Device Name	Irap lime	Resolution lime	Description	ľ
									- 1
									- 1
🗏 Alaza Manager —									
				St	atus				

4.3 TS/IP

All models provide three TS/IP operation modes. First, "Full Duplex mode", which allows one MPTS or SPTS inputted, then make up a new MPTS with local encoders/IP input, then sends the new one over IP & ASI_out. The second mode is "IPTV mode" up to 128 TS are sent over IP, all null packets are removed to save bandwidth. The cost of IPTV, obviously, is poor PCR accuracy that may be ignored in most of IPTV applications. User is reminded that PCR accuracy is essential for DVB applications, and should not deliver TS with this mode for those cases.

The management web pages of these three modes are different and will be presented automatically following the change of the operation mode.

4.3.1 Full Duplex mode:

Under Full Duplex mode, the device supports single uni/multicast output and single uni/multicast input at maximum bit rate of 80Mb/s both. The default source for TS/IP output is the built-in remux.

TS/IP Out

The parameters of TS/IP Out under Full Duplex mode could be set on the following page.

Headend Device Management	System 3.1.1-b2-x64	l			0 – 8 ×
Device Manager +	Topology [Home]	0010.10.70.48 🗙			R•
Devices List [1 live/1 sum]	Status T	S/IP Remux Con	IP Address:010.010.070.048 afiguration System		
 Device MAC:00:33:12:21:22: 	TS/IP Out TS/IP In		TS/IP Out		
	13/1P LOCA	TS/IP Out	Enable		
		Source TS Pkt Per UDP Frame	Remux Y		
		Type of Service	255 Normal		
		Uni/Multicast Address Uni/Multicast UDP Port	224 .1 .1 .1		
		Protocol ProMPEG FEC	UDP V		
	Alarm Info			🚺 Info(0) 🚺 Warning(3) 🛛 🖨 Major(0)	Critical(0)
	Status	Ack IP	Device Name Irap	Time Resolution Time Des	cription 👻
- Alarm Manager					

TS/IP Out

TS/IP Out Switch: Enable or Disable the IP output

Source: select the source for the IP output in the dropdown list

TS Pkts Per UDP: select the number of TS packets that can be carried by each UDP packet

Time To Live: set TTL to the output IP packets

Type of Service: select the service type for the outputted IP streaming

Uni/Multi IP Address: set the unicast or multicast IP address for the output IP streaming

Uni/Multi UDP Port: set the port number, valid range from 1~65535

Protocol: select UDP or RTP protocol for the IP output

ProMPEG FEC Switch: Enable or Disable the ProMPEG FEC (NOTE: ProMPEG only active with RTP protocol)

(NOTE:the submenus below are available only when the ProMPEG FEC is switched on and RTP is applied)

ProMPEG FEC Switch	Enable 💌
Column FEC UDP Port	1236
Row FEC UDP Port	1230
ProMPEG FEC Mode	1D, 5X5 💌
FEC Alignment	Annex B
Test Drop Packets	0 •

ProMPEG FEC Mode: select the mode of ProMPEG FEC from the dropdown list

Column FEC UDP Port: set the port number for column FEC

Row FEC UDP Port: set the port number for row FEC

FEC Alignment: set the alignment for FEC

Test Drop Packets: set the test drop packets

TS/IP In

Under Full Duplex Mode, the device supports single uni/multicast reception. Set the uni/multicast target IP address and port number on the page below.

D Q Q 🐼 📑	Topology [Home] vana	813C@10, 10, 70, 48 🗙			
Pevices List [: live/: sua] Control = 10.10.110.1 [0 live/0 sua] Control = 10.10.70.1 [1 live/1 sua] Control = 10.10.70.1 [1 live/1 sua] One = 10.10.70.1 [1 live/1 sua]	¥eb Page 夏用信息 Status	TS/IP Remux Con	IP Address:010.010.070.048 Afiguration System		
Device MAC:00:33:12:21:22:	TS/IP Out		TS/IP In		
	TS/IP Local		15/17 11		
		TS/IP In			
		Uni/Multicast	Multicast		
		Source Identification	Disable 🗸		
		Source IP Address	10 10 11		
		Multicast Address	224 1 1		
	1	Uni/Multicast UDP Port	1234		
		FEC Column UDP Port	1236		
		FEC Row LIDP Port	1228		
		TO Clark Deservery	1250		
		IS Clock Recovery	Auto		
	Alera Info			Info(0)	Major(0) Critical(0)

TS/IP In

Uni/Multicast: select the type of IP streamcast over IP, Unicast or multicast

Source Identification: enable/disable the source identification of IP streamcast. When it is enable, please specify the source IP address *(see next item)*. Only the stream from a specified IP can be received. Stream(s) from other device(s) will be ignored even with the same stream IP address.

Source IP Address: set the physical IP address of an unique device in an IP network. DXP-8000EM/8100EM will receive IP stream only this device. It can be Ignored if Source Identification is disable *(see previous item)*.

Uni/Multicast UDP Port: set the port number for the incoming IP streaming.

TS Clock Recover:

Auto: it is suggested to set Auto when there is accurate PCR carried by the inputted TS/IP

Fixed Rate: for system verification only, not recommend to use. When fixed rate is selected, a highly precise bit rate has to be set to receive the TS.

TS/IP Local

Set the parameters for the TS/IP Local Settings on the page below.

9

Headend Device Management	System 3.1.1-b2-x64	0 – 8 ×
🖶 Device Manager	Topology (Bone) CINASIEC010. 10. 70. 48 x	lst -
Device Harry for The Second Seco	IP Address:010.010.070.048 Status TS/IP Remux Configuration System TS/IP Out TS/IP In TS/IP Local TS/IP Address 10 10 IO TS/IP Local TS/IP Address 10 IO IO TS/IP Address IO IO	
	Alarn Info Dinfo(0) Uarning(0) Kajor(0)	Critical(0) 😽
- Alaza Managet -	Statum Ack LP Prvice Hame I sup lime Essolution lime D	escription

TS/IP Local

TS/IP Address: set the IP address of the IP port

TS/IP Subnet Mask: set the net mask of the IP port

TS/IP MAC Address: display the MAC address of the IP port, cannot be modified by user TS/IP Gateway: set the gateway address under which the IP port is connected Gateway MAC Address: set the MAC address of the gateway under which the device is connected, this is necessary when the IP streaming is needed to pass through the gateways

4.3.2 128-Way IPTV Mode:

The pages below are displayed under IPTV mode. Up to 128 un-stuffed TS streams can be delivered with different IP streamcast addresses. The maximum total bit rate is 400Mb/s. All stuffing null packets are removed to save output bandwidth. User should notice the PCR accuracy will be degraded unpredictably as in the usual cases of IP TV applications. Since the high complexity, only web pages are used for configuration in this mode.

TS/IP Out

The parameters of TS/IP output under IPTV mode could be set on the following page.

10

🂫 Headend Device Manag	ment System 3.1.1-b2-	1 64						* 0 - 6 ×
ା ପ୍ ପ୍ 📿 🗱								
📮 Device Manager 🔶	Topology [Hone]	10. 70. 48 🗙						Ц~
ې 🖉	Web Page Remux							
Devices List [1 live/1 sur 10,10,110,1 [0 live/0								
10.10.70.1 [1 live/1 s			IP Add	ress:010.01	0.070.048			
Device Uptime:20 d Device Turnel Ver	Ctatue TC/II	D Bernux Co	nfiguration	Sustam				
 Device Type:s-way Device IP:10.10.70 	TS/IP Out	P Keinux Co	ingeration	system				A
Device MAL:00:33:1	TS/IP In			TS/	IP Out			
	TS/IP Local	E /ID Out						
		S/IP Out						
		IPTV Channel	1					
		Source	Remux	~				
		Protocol	UDP	~				
		TS Pkts Per UDP	7	~				
		Time To Live	255					
		Type of Service	Normal	~				
		All Channels Streaming	All Enable	All Disab	e			
		Unassign all IPTV Serv	nces					
				_				
		Apply Cancel		101	V Charnel Settings			
		Appry Concer			V charner Settings			-
	Alarm Info	Jok II		Dettice Name	Iran Line	Info(0)	Warning(0) Kajor(0)	Critical(0)
	Status	ACK		Device have	1100 1100	e nesoluti		escription
📮 Alura Manager —								

TS/IP Out

IPTV Channel Settings: assign an IPTV streamcast output channel that is going to be

configured (refer as the current channel below)

Source: set a source for the current IPTV channel, need to select program(s) in "IPTV channels Setup" then. Default is Remux.

Protocol: select UDP or RTP protocol for the IP output. Default is UDP.

TS Pkts Per UDP: select the number of TS packets that can be carried by each UDP packet. Default is 7.

Time To Live: set TTL to the output IP packets. Default is 255.

Type of Service: select the service type for the outputted IP streaming. Default is Min Delay.

All Channels Streaming: enable/disable all IPTV streamcast outputs at once

Unassign All IPTV Programs: remove all programs mapped for all IPTV streamcast outputs at once

IPTV Channel Settings: (see the red circle on the TS/IP output page)

Enter this page, as below, to set parameters and programs mapping/assignment for a specified IPTV channel.

e Kanager +	Topology [Hone] Campingerio	10,70,48 🗙							
10.70.1 [1 live/1 = BICOIO 10.70.45 Device Uptime:20 (Device Type:8-Way Device IP:10.10.7)	Status TS/1	P Remux	IP Add	iress:010. System	010.070.048				
Device MAC:00:33: 10.110.1 [0 live/0	TS/IP Out TS/IP In		ΙΡΤΥ						
0.10.110.1 [0]lvve/0		TS Input Remux (Total: 1)	Encoder1 *	>	Channel Name Streaming Target IP Address Target UDP Port Target Mac Address ETT Pass Through IP Output Remux H.264 HDTV Er	channel 1 Enable 238 69 70 1234 M :ff :ff :ff :f TDT/TOT f	V 1 f : ff : ff Pass Through	*	
	Alara Info	2-6				Info(0)	Tarning (0)	Major(0)	Critical
	Status	Ack	18	Device B	inny Isap Isan	Resolu	ution lime	De	scription

IPTV Channel Settings

TS Input: display the TS source selected in previous step for the current channel *(channel 110 for this example)*, and the total program/service number detected will be shown in the brackets. The program(s)/service(s) detected from the select TS source will be listed in the box beneath. **Channel Name:** Set the IPTV streamcast channel as the one is going to be configured *(refer to the current channel below)*.

Streaming: enable/disable the current channel streamcast output. Default is Disable.

Target IP Address: set the streamcast IP address for the current channel. Default is 238.1.1.j for jth channel.

Target UDP Port: set the streamcast IP UDP port for the current channel. Defaults are 1234 for all channels.

Target MAC Address: set the MAC address of the IP port of the destination device for the current channel in case of necessity. Default is ff:ff:ff:ff:ff:ff;ff, this just imply to get the MAC address with Target IP Address and ARP protocol automatically, not really send stream to a device with MAC=ff:ff:ff:ff:ff:ff.ff.

EIT Pass Through: enabel EIT pass through from the source to the current channel **TDT/TOT Pass Through:** enabel TDT/TOT pass through from the source to the current channel

IP Output: the window displaying all program(s)/service(s) already mapped (or selected) to be encapsulated from the source onto the current channel.

How to assign program/service onto the current channel:

1. To add program(s)/service(s), click the check box on the left of program(s)/service(s) name which is being mapped to the current channel in the TS Input window. Click the right arrow

button between TS Input window and IP Output window, then the program(s)/service(s) checked will appear in the IP Output window.

2. To remove program(s)/service(s), click the check box on the left of program(s)/service(s) name which is being removed from the current channel in the IP Output window. Click the left arrow button www.click.com between TS Input window and IP Output window, the the program(s)/service(s) checked will disappear from the IP Output window.

3. Click the Apply button Apply at the bottom of this page to apply the settings just entered, or the Close button Close to discard and return to the previous web page.

entered, of the close button is to discard and return to the previous web pag

4. A pop up will be displayed to confirm settings are accepted and applied.

5. Click the Close button Close after settings confirmed to return to previous page.

6. Click the Cancel button Cancel anytime to discard settings without return to the previous page.

7. Since there is only one TS source for each IPTV output channel. User could make up a remuxed TS from multiple TS sources first, then add multiple programs/services from this single TS remuxed. In such way, use can assign programs/services to the particular IPTV channel(s) from multiple TS sources. The maximum data output bit rate of the build-in remux is 216Mb/s.

TS/IP In

Under IPTV mode, the TS/IP In is not available.

TS/IP Local

Set the parameters for the TS/IP Local Settings on the page below.

Boadand Device Ramag	smeet System 1,1,	1-02-004				
0000	N					
Bertin Reiter -	Topel agy Disaid Tope	(HC010, 17, 70, 45.7)				
Devices List El live/1 su 30.00.100.0 [0 live/0			8			
0			IP Address:010.u10.07	0.048		
* Device Uptime:20 5	S. Status	ne (m. Romuni Le	antiau ration sustan			
 Device IP:10.10.73 	Status	ID/1P NOTION TO	oninguration bystem			
 Device NaC(00)33(1) 	TS/TP Out		TE/IN LOC	J		
	TS/ IP In		15/10 1.00			
	TS/ IP Local	TS/IP Local				
		TS/IP Address	10 10 16 10			
		THE OWN PERSON NUMBER	200 200 200 C			
		Tay an automation mask	233 .233 .233 .6			
		TS/IP MAC Address	00:00:23:45:67:89			
		TS/IP Gateway	10 .10 .10 .1			
		Gateway MAC Address	00 :00 :12 :24 :56 :78	(* Optional)		
		Apply Cancel				
	Alarm Info				Info(I) Unstaine(0)	Naior (0) Critical (0)
	Status	Ada I	P Device Name	Trap line	Resolution line	Description
😅 Alors Nesoper						
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						

TS/IP Local

TS/IP Address: set the IP address of the IP port
TS/IP Subnet Mask: set the net mask of the IP port
TS/IP MAC Address: display the MAC address of the IP port, cannot be modified by user
TS/IP Gateway: set the gateway address under which the IP port is connected
Gateway MAC Address: set the MAC address of the gateway under which the device is
connected, this is necessary when the IP streaming is needed to pass through the gateways

4.3.2 32 - Way IPTV Mode:

The pages below are displayed under IPTV mode. Up to 32 un-stuffed TS streams can be delivered with different IP streamcast addresses. Two IP ports maximum total bit rate is 400Mb/s. All stuffing null packets are removed to save output bandwidth. User should notice the PCR accuracy will be degraded unpredictably as in the usual cases of IP TV applications. Since the high complexity, only web pages are used for configuration in this mode.

TS/IP Out

The parameters of TS/IP output under IPTV mode could be set on the following page.

List D 1996/1 cu List I (0 Dive/0 L70.1 [1]j-ve/1 s EC011 0.1 [1]j-ve/1 s			IP Ad	81 dress:016J.070.048		
Dwrite Type: 5-Way	Status	15/1P Remut C	unfiguration	System		
Device MaC(00)33/1	TS/IP Out TS/IP In					
	TS/IP Local	TS/IP Out				
		IFTV Channel	1			
		Source	Remun			
		Protocoli	UDF	w.		
		TS Pkts Per UDP	7	W		
		Time To-Live	155			
		Type of Service	Normal	U.		
		All Channels Streaming	E All Enable	e 🗉 All Disable		
		E Unassign all IPTV Se	vices			
		Apply Cancel		SPTV Charanel Settings		
	Alara lafe	The second second			Info-00 2Merring (0)	Stape (0) DCritting
	Stat M		7	Person Theo	feminin los	2+statistist

TS/IP Out

IPTV Channel: assign an IPTV streamcast output channel that is going to be configured *(refer as the current channel below)*

Source: set a source for the current IPTV channel, need to select program(s) in "IPTV channels Setup" then. Default is Remux.

Protocol: select UDP or RTP protocol for the IP output. Default is UDP.

TS Pkts Per UDP: select the number of TS packets that can be carried by each UDP packet. Default is 7.

Time To Live: set TTL to the output IP packets. Default is 255.

Type of Service: select the service type for the outputted IP streaming. Default is Min Delay.

All Channels Streaming: enable/disable all IPTV streamcast outputs at once

Unassign All IPTV Programs: remove all programs mapped for all IPTV streamcast outputs at once

IPTV channels Settings (see the red circle on the TS/IP output page)

Enter this page, as below, to set parameters and programs mapping/assignment for a specified IPTV channel.

Runager +	Topology [Home]	#81EC@10. 10. 7	0.48 ×							
List [1 live/1 su	Web Page Remux									
EC010.10.70.40 levice Uptime:20 c				IP Ad	dress:010	.010.070.048				
evice Type:8-Way evice TP:10.10.70	Status	TS/IP	Remux	Configuration	System	1				
1 [0 live/0	TS/IP Out TS/IP In					IPTV				
	TS/IP Local	-				Channel Name Streaming	channel 1 Enable	> >		
		TS	Input mux (Total: 1)		-1	Target IP Address-1 Target UDP Port-1	238 .69 .70 1234	.1		
			H.264 HD	TV Encoder1		IP2 Parameters Setting Target IP Address-2	Same as IP-1	.1		
						Target UDP Port-2 Target Mac Address-2	1234 [f]:[f]:[f]:[f]:[n :(n :(n		
						EIT Pass Through	🔲 ТОТ/ТОТ	Pass Through		
						IP Output Remux				
						H.264 HDTV En	coder1		1	
								and a state of the second s	- w	D

IPTV channels Settings

TS Input: display the TS source selected in previous step for the current channel *(channel 110 for this example)*, and the total program/service number detected will be shown in the brackets. The program(s)/service(s) detected from the select TS source will be listed in the box beneath. **Channel Name:** Set the IPTV streamcast channel as the one is going to be configured *(refer to the current channel below)*.

Streaming: enable/disable the current channel streamcast output. Default is Disable.

Target IP Address-1: set the streamcast IP address for the current channel. Default is 238.1.1.j for jth channel.

Target UDP Port -1: set the streamcast IP UDP port for the current channel. Defaults are 1234 for all channels.

Target MAC Address-1: set the MAC address of the IP port of the destination device for the current channel in case of necessity. Default is ff:ff:ff:ff:ff:ff.ff. this just imply to get the MAC address with Target IP Address and ARP protocol automatically, not really send stream to a device with MAC=ff:ff:ff:ff:ff:ff:ff.ff.

IP2 parameters setting: Same as the port1 or set new parameters.

Target IP Address-2: set the streamcast IP address for the current channel. Default is 238.1.1.j for jth channel.

Target UDP Port -2: set the streamcast IP UDP port for the current channel. Defaults are 1234 for all channels.

Target MAC Address-2: set the MAC address of the IP port of the destination device for the current channel in case of necessity. Default is ff:ff:ff:ff:ff:ff.ff.ff. this just imply to get the MAC address with Target IP Address and ARP protocol automatically, not really send stream to a device with MAC=ff:ff:ff:ff:ff:ff:ff.ff.

EIT Pass Through: enabel EIT pass through from the source to the current channel **TDT/TOT Pass Through:** enabel TDT/TOT pass through from the source to the current channel

IP Output: the window displaying all program(s)/service(s) already mapped (or selected) to be encapsulated from the source onto the current channel.

How to assign program/service onto the current channel:

8. To add program(s)/service(s), click the check box on the left of program(s)/service(s) name which is being mapped to the current channel in the TS Input window. Click the right arrow button between TS Input window and IP Output window, then the program(s)/service(s) checked will appear in the IP Output window.

9. To remove program(s)/service(s), click the check box on the left of program(s)/service(s) name which is being removed from the current channel in the IP Output window. Click the left arrow button www.click.com between TS Input window and IP Output window, the the program(s)/service(s) checked will disappear from the IP Output window.

10. Click the Apply button Apply at he bottom of this page to apply the settings just entered, or the Close button Close to discard and return to the previous web page.
11. A pop up will be displayed to confirm settings are accepted and applied.

12. Click the Close button close after settings confirmed to return to previous page.
13. Click the Cancel button cancel anytime to discard settings without return to the previous page.

14. Since there is only one TS source for each IPTV output channel. User could make up a remuxed TS from multiple TS sources first, then add multiple programs/services from this single TS remuxed. In such way, use can assign programs/services to the particular IPTV channel(s) from multiple TS sources. The maximum data output bit rate of the build-in remux is

216Mb/s.

TS/IP In

Under IPTV mode, the TS/IP In is not available.

TS/IP Local

Set the parameters for the TS/IP Local Settings on the page below.

Beadond Service Ramag	gement System 3.1.1-102-064	0.010.01.0
0000		
if Serate Reiger -	Tepclage (Banel Swettmann, et. 10. ut	(L-
-Q		
Devices List [1 live/1 su 2 10.10.110.0 [0 live/0	8	
	IP Address:01	
· Sevice Tytime:20 4	Status 15/1P Bernux Configuration System	
 Bevice IF:10.10.73 	SUDD ST 10/11 NOTING COMPLETION OF SCON	
 Bevice NAC:00:13:1 	TS/IP In TS/IP Local	
	TS/TP Local	
	TS/IP Local-1	
	TS/IP Address 10 10 10 10	
	TS/IP Subnet Mask 255 255 25 0	
	TS/IEP MAC Address 00:00123:45:67:89	
	Teran Generative Annual	
	Gateway MAC Address 00 :00 :12 :24 :55 :70 (* Optional)	
	TS/IP Local-2	
	TS/IP Address 10 .10 .11	
	75/IP Subset Hack 255 255 255 c	
	TS/IP MAC ADDRESS 00150122100122167	
	TS/IP Gateway 10 10 10 1	
	Gateway MAC Address # :# :# :# :# :# (* Optional)	
	Alaza Info 🕕 Esta (0) 🔮 Farming (1) 🔤 Rajo	er-00) QCcitical(0) 😽
	Statue Ack IP Device Near Tray Time Newel/story fine	Description
Alors Managor		

TS/IP Local

TS/IP Address: set the IP address of the IP port

TS/IP Subnet Mask: set the net mask of the IP port

TS/IP MAC Address: display the MAC address of the IP port, cannot be modified by user **TS/IP Gateway:** set the gateway address under which the IP port is connected

Gateway MAC Address: set the MAC address of the gateway under which the device is connected, this is necessary when the IP streaming is needed to pass through the gateways

4.4 Remux

The build-in TS remux can receive 8 SPTS generated by the encoders, TS from TS/IP *(under Full Duplex mode only)*.

A Headend Device Manage	ement System 3.1.1	1-b2- x64				₩ 0 - 0 X
୍ ପ୍ ପ୍ 🛱						
🔲 Device Manager 🛛 🕂	Topology [Home]	1EC@10.10.70.48 🗙				R-
a, @	Web Page Remux					
Devices List [1 live/1 sum						
□						
Billogio, 10, 70, 48			IP Address	010.010.070.048		
 Device Type:8-Way E 	Status	TS/IP Remux	Configuration Syst	em		
 Device IP:10.10.70. Device MAC:00:33:12 	Remux	· · · ·				·
				Remux		
		Packet Size	188 Byte 💌	Bit Rate (Kb/s)	100000	
		TS ID	8	Current Bit Rate (Kb/s)	4210	
		Original Network ID	128	Remove CA	off	
		original network to	120	Number on		
		Input TS (Total:1)		Output TS (Total:1)		
		Encoder-1 Encoder-2 Encoder-3 Encoder-4 Encoder-5 Encoder-6	ĺ	Encoder-1 Encoder-2 Encoder-3 Encoder-4 Encoder-5 Encoder-6		
		Encoder-7 Encoder-8		< Encoder-7 Encoder-8		
	Alarm Info				Info(0) Varning(0)	Major(0) Critical(0) 😵
	Status	Ack	IP let	ice Name Irap Time	Resolution lime	Description
🖶 Alarm Manager —						

Remux

Packet Size: set the packet length of the TS re-multiplexed to 188 or 204 Byte.

Bit Rate (Kb/s): set the bit rate for the new generated MPTS, valid range from 100~216000 Kb/s. The bit rate should be at least bigger than the total bit rate of selected programs, otherwise, packets may be dropped.

TS ID: set the TSID of the new generated transport stream, valid range from 0 to 65535 decimal.

Current Bit Rate(Kb/s): display the actual valid bit rate that the Remux is delivering, including all programs,/services, PSI/SI and null packets.

Original Network ID:set the Original Network ID

Remove CA: ON: remove the CA descriptors that are carried within the inputted TS over ASI or IP, OFF: keep the CA descriptors as they are

How to assign program/service onto the re-multiplexed (remuxed) TS:

1. To add program(s)/service(s), click the check box on the left of program(s)/service(s) name which is going to be remuxed in the Input TS window. Click the right arrow button between Input TS window and Output TS window, then the program(s)/service(s) checked will appear in the Output TS window.

2. To remove program(s)/service(s), click the check box on the left of program(s)/service(s) name which is going to be removed from the remuxed TS in the Output TS window. Click the left arrow button www.click.com between Input TS window and Output TS window, the the program(s)/service(s) checked will disappear from the Output TS window.

3. Click the Apply button Apply at the bottom of this page to apply the settings just entered, a new TS is being re-multplexed. Or, click the Cancel button Cancel anytime to discard.

18

- 4. A pop up will be displayed to confirm settings are accepted and applied.
- 5. The maximum output data bit rate of the build-in remux is 216Mb/s.

4.5 System

The system page gives all information of this device including device name, serial number, software version, and so on. User can implement the alarm switch configuration, network settings, TS/IP operation mode, reboot, preset parameters (save & load with a PC) and software upgrade under system page.

Device

Headend Device Manage	ement System 3.1.1	-b2- x6 4	* 0 - 8 X							
Device Manager +	Innology (Hone)	ST@10 10 70 48 -	D.+							
4.0	Web Page Remax		DX*							
Devices List [1 live/1 sum	(Accessed)									
A 10.10.70.1 [1 11ve/1 su		IP Address:010.010.070.048								
Device Uptime:20 da										
 Device Type:S-Way E Device IP:10.10.70. 	Status 13/1P Remux Connyulation System									
 Device MAC:00:33:12 	Device	Bavica	1							
	IP Settings	Device								
	Web Login	Device								
	Factory Default	Device Label 81EC								
	System Reboot	Serial Number 0123456789abc								
	Upgrade	WEB Auto Refresh Time Every 20 seconds								
		TS/IP Mode								
		TS/IP Mode 32 I2TV Dual Out M								
		Apply Cancel								
			-							
	Alarm Info	TD Device Mana Tran Time Paralution Time	Major(0) Critical(0) ¥							
	516(05	NUK AF KEYANG MANG LEGUANIANI IING	erstray, 10h							
📮 Alara Manager —										
1.1.1.1 (M)										

Device

Device Label: set the label of this device. User can assign a label (or nickname) for this device, the Device Label should be less than 24 characters and will be shown on the LCD front panel continuously, just above device's IP address, and on the page index of most of web browsers.

Serial Number: show the serial number for the device, read-only.

WEB Auto Refresh Time: set the time interval of web page refresh.

TS/IP Mode: switch the TS/IP operation mode among "Multiple Output", "128 -Way IPTV" and "32-Way IPTV" modes. The device will reboot automatically after change applied. It takes about 3 minutes.

IP Settings

The IP settings for the device can be found and configured under the page below.

gement System 3.1	.1-b2-x64										• • - <i>•</i> ×	
Topology [Home]	RIECO10, 10, 70	. 48 🗙									R	
Web Page Remux			IP Ad	dress	010.0	10.07	0.04	8				
Status	TS/IP	Remux	Configuration	Syst	em							
Device TP Settings Version Web Login Factory Default System Reboot Upgrade	Local IP A Netv Gate MAC	Settings ddress work Mask away	10 2\$5 10 00:3	I . 10 . 255 . 10 3:12:21	P Netw . 70 . 255 . 70 .:22:11	. 48 . 0 . 1	ttings	6				
Alara Info Status	Ack		P	D	vice Wa	MC	I	Trap Time	Dinfo(0) DVarning(0) Resolution like	Stajer(0)	Critical(0) 3 Description	
	Topology Ubael 200 Topology Ubael 200 Topology Ubael 200 Status Device IP Settings Version Web Login Factory Default System Reboot Upgrade Alara Info Status	Iopology (Bone) Presilicatio, 10, 70 Web Pare Benux Status TS/IP Device IP Settings Version Local IP Settings Version Local IP Attent System Reboot Upgrade Gate MAC	Image: Status TS/IP Remux Status TS/IP Remux Device IP Settings Local Settings IP Settings Local Settings Web Login IP Address System Reboot Upgrade Upgrade Adares	Image: Status ISPAREBORID.10.70.48 x Feb Pare Remux IP Address IP Version Local Settings Version IP Address Version IP Address System Reboot Upgrade Alars Infe Alars Infe	Interview Image: Status TS/IP Remux Configuration System Version IP Status IS/IP Remux II Version IP Settings II Version IP Address 10 10 System Reboot Upgrade II Address 255 255 Gateway 10 10 10 10 MAC 00:33:12:21 Apply Cancel	Interviewed Parce IP Address:010.0 IP Address:010.0 Status IP Address:010.0 IP Address:010.0 IP Address:010.0 IP Address:010.0 IP Address IP Netw Local Settings IP Address Version Upgrade IP Address IP Address <th colspa<="" td=""><td>Induction of the second sec</td><td>Image: Status TS/IP Remux Configuration System Device IP Address:010.010.070.04 TP Settings IP Network Settings Version IP Address 10 10 70 48 Version IP Address 10 10 70 14 System Reboot Upgrade IP Address 00:33:12:21:22:11 Apply Cancel</td><td>Interviewer of the part o</td><td>Image: System Control of the Date Image: System Control of the Date Image: System Control of Control of</td><td>Index Info@ Variable Status IP Address:010.010.070.048 Status TS/IP Remux Configuration System Device IP IP Status Version Local Settings Version IP Address: 010.010.070.048 Status TS/IP Remux Configuration System Reboot IP Address Upgrade IP Address Apply Cancel</td></th>	<td>Induction of the second sec</td> <td>Image: Status TS/IP Remux Configuration System Device IP Address:010.010.070.04 TP Settings IP Network Settings Version IP Address 10 10 70 48 Version IP Address 10 10 70 14 System Reboot Upgrade IP Address 00:33:12:21:22:11 Apply Cancel</td> <td>Interviewer of the part o</td> <td>Image: System Control of the Date Image: System Control of the Date Image: System Control of Control of</td> <td>Index Info@ Variable Status IP Address:010.010.070.048 Status TS/IP Remux Configuration System Device IP IP Status Version Local Settings Version IP Address: 010.010.070.048 Status TS/IP Remux Configuration System Reboot IP Address Upgrade IP Address Apply Cancel</td>	Induction of the second sec	Image: Status TS/IP Remux Configuration System Device IP Address:010.010.070.04 TP Settings IP Network Settings Version IP Address 10 10 70 48 Version IP Address 10 10 70 14 System Reboot Upgrade IP Address 00:33:12:21:22:11 Apply Cancel	Interviewer of the part o	Image: System Control of the Date Image: System Control of the Date Image: System Control of	Index Info@ Variable Status IP Address:010.010.070.048 Status TS/IP Remux Configuration System Device IP IP Status Version Local Settings Version IP Address: 010.010.070.048 Status TS/IP Remux Configuration System Reboot IP Address Upgrade IP Address Apply Cancel

IP Settings

IP Address: set the address of the IP control port of this device.

Network Mask: set the subnet mask for this device.

Gateway: set the gateway IP address, to which this device is connected to, if any.

MAC: display the MAC address of the control IP port of this device, read only.

Version

User can check versions of various functional blocks of this device, as shown on the page below.

a bearing or	Topology [Home]	81EC@10. 10. 7	0.48 🗙								
4.4	Web Page Remux										
s List [1 live/1 su 10.70.1 [1 live/1 s BIECGIO.10.70.40 Device Uptime:20 s				IP Ad	IP Address:010.010.070.048						
Device Type:8-Way Device IP:10.10.7	Status	TS/IP	Remux	Configuration	System	1					
10.110.1 [0 live/0	Device									-	
	IP Settings					Version					
	Version	Mair	Version	80EM82HT0018	м	ICU Version	0018				
	Web Login Eactory Default	FPG	A Version	0024	т	S/IP Version	5087				
	System Reboot	WEE	Version	0111							
	Upgrade									_	
	1										
	No. Tota							DT-6- (0)	• Warning (A)		Benting
	Status	Ack		TP .	Bevice	Name	Trap Time	Renol	ution line	Aajor(U)	encription
							Market Annual				

Version

Web Login

Set the log-in user name and password for the web management server of this device. Default values are root and 12345, respectively. To retrieve these values in case of necessity, set it again on the front panel.

Device Manager	Topology [Home]	E1ECO10, 10, 70	. 48 ×								
a 9	Web Page Remus										
vices List [1 live/1 su 10.10.70.1 [1 live/1 s 				IP Ac	dress:010	010.070.0	48				
Device Type:S-Way Device TP:10.10.70 Device MAC:00:33:1	Status	TS/IP	Remux	Configuration	System	1					
10.10.110.1 [0 live/0	Device									_	
	IP Settings				w	eb Login					
	Version	Unit									
	Web Login	User	name								
	Factory Default	Pass	word								
	System Reboot										
		Appl	y Cancel								
	Alara Info							Info(0)	UWarning(0)	Major(0)	Critical
		Ack		Th.	Device 1	lane.	Irop lime	Kezo1	ution lime	1	escription
	Statur										
	Statur										
	- Status			- 10							

Web Login

Factory Default

Click the Default button Default to restore the factory default settings to the device.

Note: the IP address of the device and the operation mode of the Gigabit board will not be

restored.													
A Headend Device Manny	cement System	3.1.1-b2-x64							* 0 - 8 X				
0000	EX												
📮 Device Manager 🛛 +	Topology [Home]). 4R 🗙						R•				
4.0	Web Page Remux												
Devices List [1 live/1 su 				IP Ac	Idress:010.010	0.070.04	18						
 Device Type:8-Way Device IP:10.10.70 	Status	TS/IP	Remux	Configuration	System								
10.10.110.1 [0 live/0	Device												
	IP Settings		Factory Default										
	Version Web Login	rsion Click the 'Default' button to restore settings to the factory defaults.											
	Factory Defau	ult											
	System Rebo	ot											
	Upgrade												
								Default	4				
		-											
	Alara Info							Info(0) Uwarning(0)	Major(0) Critical(0) 🛠				
	Status	Ack		IP	Device Name		Irap line	Resolution line	Description				
ALALA Ranaget													

Factory Default

System Reboot

User can reboot this device by clicking the Reboot button Reboot.

and a second	Transform (Bergel Dam										
Devices List [1 live/1 au 10.10.70.1 [1 live/1 au 0 Device Uptime:20 au 0 Device Uptime:20 au 0 Device Upe:0-Way 0 Device IP:10.10.77	Topology Hones	METHCO10, 10, 1	0.48 X								
	seo ruge genus										
				IP Ac	dress:010.	010.070.048					
	Status	TS/IP	Remux	Configuration	System						
 Device MAC:00:33: .10,110.1 [0 live/0 	Device									_	
	IP Settings				Syste	em Reboot					
	Version	Chr	k the 'Reheat' i	witten to rectart the	device						
	Web Login	Circ	A the Report of	futton to restart the	device.						
	Factory Default										
	Ungrade										
									Reb	pot	
	Alara Info							Info(0)	UVarning(0)	Major(0)	Critical(0
	Alara Info Statur	Ack	í	P	Device N	at 1	Trop Tame	Info(0)	Varning(0) ution lime	Major(0)	Critical(0
	Alara Info Status	Ack	1	IP (Device N	ae	Irap line	Info(0)	UVarning(0) ution lime	N ajor (0)	Critical()

System Reboot

Upgrade

User can upgrade the software of this device on web.

	EN System 3.1								
Device Runager	Jopology [lione]	8150010.10.7	0.48						
Devices List [1 live/1 su 	Web Pare Harm								
				IP Ad	dress:010.	010.070.0	48		
 Device Type:S-Way Device IP:10.10.70 	Status	TS/IP	Remux	Configuration	System	1			
Device RAC:00:33:1 10.10.110.1 [0 live/0	Device								
	IP Settings				U	pgrade			
	Version Web Login	Sele	ect the upgrade	file	- i	透			
	Factory Default	- Ur	heale						
	System Reboot								
	Upgrade								
								Upgrade	1
		h							
	Alaxa Info							Info(0) Usrning(0)	Major(0) GCritical()
	Alarm Info Status	Ack		19	Device N	une 1	Trap Time	Info(0) <u>t</u> Varning(0) Essolution Tame	Major(0) Critical()
	Alarm Info Status	Ack	1	19	Device N	uhe I	Trap Time	Info(0) UVarning(0) C Resolution Tame	Major(0) Critical() Description
	Alaxa Info Status	Ack		P	Device N	uh÷	Irap line	Info(0) (Varning(0) C Resolution Time	Major(0) Critical((Description
	Alaxa Info	Ack	1	P	Device N	ukė 📃	Irop line	Dinfo(0) (Varning(0) C Resolution Taxe	Major(0) Critical((

Upgrade

Firstly, verify a correct upgrade file with correct model and correct version. Consult your technical support person(s) if any ambiguity, this device might be totally out of order if a wrong file is upgraded. Save the correct file for upgrade on a specific path in the PC just connects to this device with the web browser. Enter the path & file name in the row right next to "Select the

upgrade file". Verify whether the correct file has been entered, again. Click the Upload button

Upload , progress of file upload will be shown and wait until the process is completed. Then

Click the Upgrade button on the lower right corner of this page. Wait for few minutes for the upgrade, and this device will reboot automatically after upgrade success. The IP address for control will not be changed even after software upgrade.

4.6 Configuration

4.6.1 Encoder

There are eight encoders integrated on one device, each encoder can work independently. Click on the **Encoder-1** to configure the encoder 1, the same for the rests.

Headend Device Manage	ement System 3 =0	.1.1-b2- x64							* • - • ×			
Device Manager +	Iopology [Home]	#81EC@10.10.7	0.48 ×						R*			
Devices List [1 live/1 sua Devices List [1 live/1 sua Devices List [1 live/1 sua Device live/1 su Device Uptime:20 ds	IP Address:010.010.070.048											
 Device Type: 8-may B Device TP: 10. 10. 70. 	Status	15/12	Remux	Configuration	System							
 Device MAC:00:33:12 	Encoder1				• En	coder-1						
	Encoder3					icouci x						
	Encoder4	Video	1 Settings									
	Encoder5	Vide	eo Bit Rate(Kb/s)	3000		Aspect Ratio	16:9	¥				
	Encoder6	vide	eo Rate Ctrl	CBR	×	GOP Structure	IBBBP	v	-			
	Encoder7	vide	to min Bit Rate(Kb	/s) 0		GOP Size	52					
	COFDM Outpu	u vide	video max bit Rate(Kb/s)			GOP Adaptation	ON	Y				
	•	Vide	o Input Format	Auto		Horizontal Resolution	220					
				Auto								
		Vide	to Output Format	As Input	×	Vertical Resolution	576					
		Fran	ne Format	Progressive	¥							
		Audio	1 Settings									
		Aud	io Format	MPEG1 layer	2 💟	Audio Bit Rate	128kb/s	~				
		Aud	to Channel Mode	Stereo	~	Audio Level	U dB	~				
		Enco	der1 Bit Rate									
	Alarm Info						Info(0)	• Warning (0)	Majer(0) Critical(0) 🛠			
	Status	Ack		IP	Device Nam	e - Irap line	Reso	lution Time	Description			
🖶 Alara Manager —												

Headend Device Manag	ement System 3.	.1.1-b2-x64						•	0 – e x	
Device Manager +	lopology [Home]	**** \$12C@10.10.70.48 ×							R	
Devices List [: live/] sum Devices List [: live/] sum	Web Page Remu		IP Ad	dress:010.0	10.070.048					_
 Device Uptime:20 ds Device Type:8-Way E Device IP:10.10.70. 	Status	TS/IP Remux Audio1 Settings	Configuration	System						*
 Device MAC:00:33:12 		Audio Format	MPEG1 lay	er2 💌	Audio Bit Rate	128kb/s	~			
		Audio Channel Mode	Stereo	Y	Audio Level	0 dB	~			
		Encoder1 Bit Rate								
		Encoder Bit Rate(Kb	/s) 6650							
		Advanced1 Settings								
		PMT PID	2336		VIDEO PID	4113			Í	1
	•	Audio PID	4352		PCR PID	2352				1
		Service ID	1024		Service Name	H.264 HD1	TV Encoder1			
		Provider Name	Service Pro	vider	Null Filter	On	~			
		Encode1 Mode								
		Encode Mode	H264	×						
										1
		[] []								
	Alarm Info	Anniv Cancel				Info(0)	🛃 Warning (0)	Anjor (0)	Critical(0)	¥
	Statue	Ask	IP	Device Name	Irap Time	Recol	ution Time	Dec	cription	-
🖶 Alarm Manager —										

Encoder

Video n Settings (*n*=1 in this example, same below)

Video Bit Rate: set the video bit rate. The setting is valid only when the Video Rate Ctl is CBR.

Aspect Ratio: set the aspect ratio for the encoded video, 4:3 or 16:9.

Video Rate Ctl: set constant bit rate (CBR)mode or variable bit rate (VBR) mode for the selected encoder

Video min Bit Rate: set the minimum video bit rate. The setting is valid only when the Video Rate Ctl is VBR.

Video Max Bit Rate: set the Maximum video bit rate. The setting is valid only when the Video Rate Ctl is VBR.

GOP Structure: Set the GOP structure, pull down menu is provided

GOP Size: Set the GOP Size/Length, a long GOP may improve picture quality but increase the latency of encoding.

GOP Adaptation: Enable/Disable GOP size auto-adaption.

Video Input Format: Set the input video format, please select "Auto" if unknown or it will be varied

Video Output Format: Select the video format, video will be scaled before encoded and outputted.

Horizontal Resolution: Set the horizontal resolution for scale (*NOTE:before encoding, valid* only when Output Video Format = "manual settings")

Vertical Resolution: Set the vertical resolution for scale (*NOTE: before encoding, valid only when Output Video Format = "manual settings"*)

Frame Format: Set video scan mode, video will to be converted before encoding

Audio n Settings

Audio Format: set the audio compression format MPEG-1 Layer II or MPEG2/4 AAC-LC HE-AAC. (*NOTE:MPEG2/4 AAC-LC HE-AAC can be selected on EN-8000 models*) Audio Bit Rate: set the audio bit rate.

Audio Channel Mode: set the audio in stereo or mono. (NOTE: only Left audio channel will be encoded when Mono mode is on.)

Audio Level: set the gain of volume, audio will be amplified or attenuated before encoding.

Encoder n Bit Rate: set the output bit rate of the current encoder. Encoder bit rate must greater than the sum of video bit rate + audio bit rate + PSI (150Kbps) + buffering (100Kbps) + encoder error (150Kbps), valid range from 300 to 22000Kb/s

Advanced n Settings

PMT PID: set PMT PID, valid range from 32 to 8190 decimal
Video PID: set Video PID, valid range from 32 to 8190 decimal
Audio PID: set audio PID, valid range from 32 to 8190 decimal
PCR PID: set PCR PID, valid range from 32 to 8190 decimal
Service ID: set Service ID / Program Number , valid from 1 to 65535 decimal
Service Name: set the service name for the service/program encoded. The length should be

less than 24 characters.

Provider Name: Set the name of provider of this service. This information will be embedded onto the TS encoded, and will be presented with some set top boxes.

Null Filter: Enable/Disable null packet data removal to save bandwidth, please be reminded that PCR accuracy will be degraded if null packets are filtered.

Encoder n Mode: set video encode/compression standard, H.264 (SD/ HD) or MPEG2(for SD only).

5 Installation

It is highly recommended to fix the EN-8000 be mounted in EIA standard 19" rack, any other mounting method may lead to damage of the device.

- Open the box and take out the device with care. Inspect if there is any damage to the appearance of the device.
- Fix the device into the standard EIA 19" rack.
- Connect the input and output cables. It is highly recommended to put the 750hm loader onto the ASI output port that is not used.
- Plug the power cable into the AC Power input socket. The POWER Indicator LED (A4) should be green and always light on during working.Needs 5-10minutes to boot up completely.
- Configure the network settings of the device via front panel.
- Make the settings of Encoder, Remux, and IP output step by step following the instruction written in the user manual.

6 Accessories

Certificate of quality /Guarantee card	1PC
Power Cord	2PCS



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