

HPS8403F DVB-S2X Encoder Modulator



Product Overview

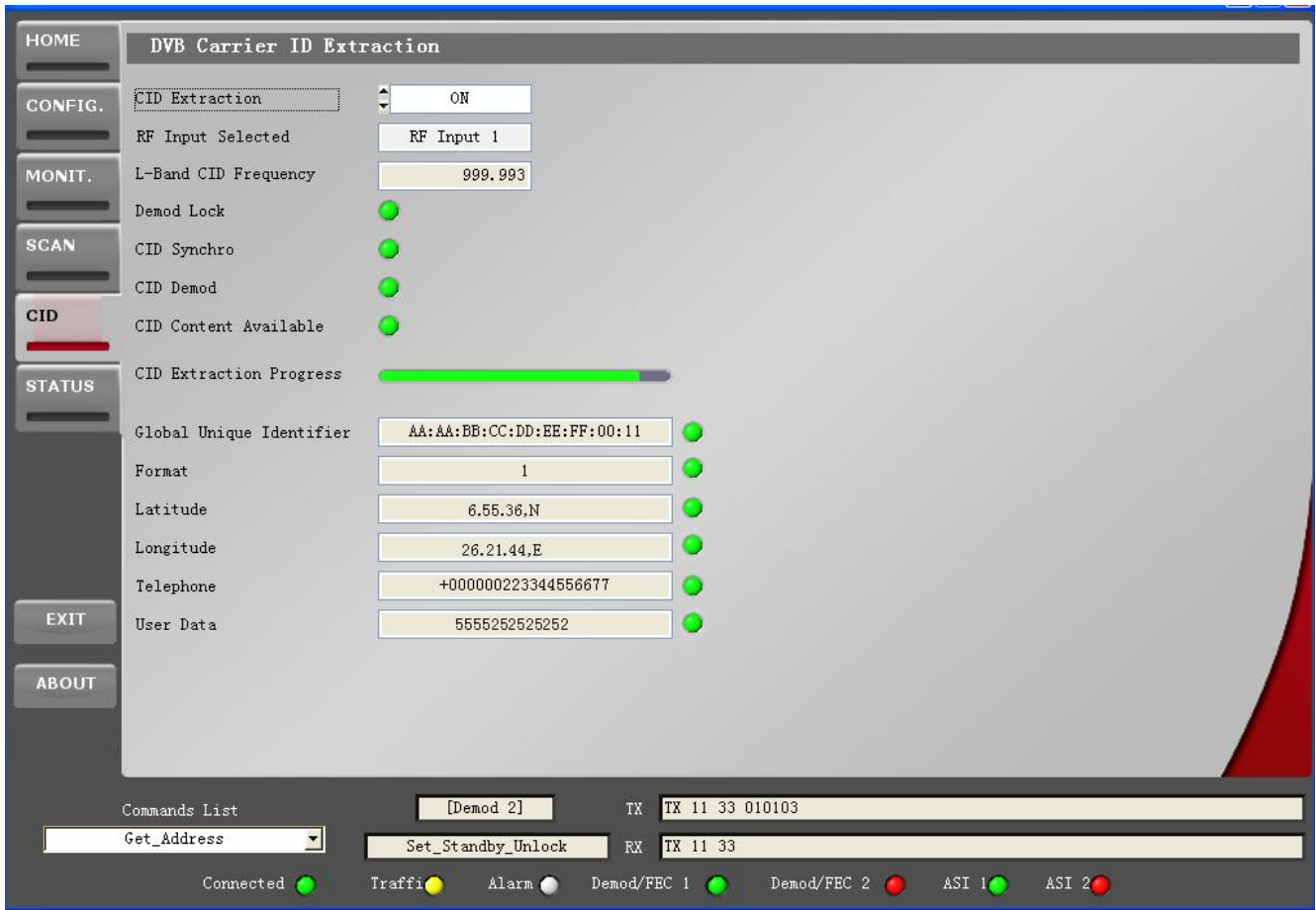
HPS8403F DVB-S/S2/S2X Encoder Modulator is an integrated device with multifunction. Its pluggable design makes it convenient to change encoding module (CVBS/SDI/HDMI/YPbPr...) as needed. It is also equipped with 1 channel ASI input. It outputs ASI and DVB-S/S2/S2X RF (IF Optional) in the same time.

The signal source could be from CCTV cameras, Blue-ray players and etc. It adopts user-friendly web-based operation interface to effectively manage the device and carefully protect your content with its BISS function. Featured with its high performance and low cost, HPS8403F is especially adequate for the TV station or DSNG system to encode SD/HD programs and output to uplink.

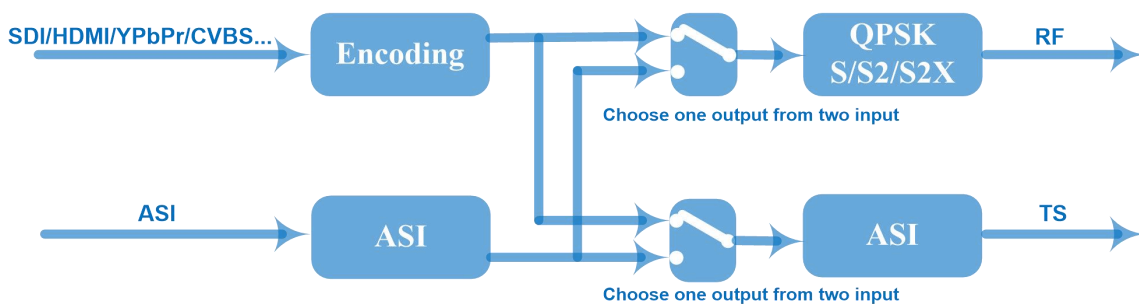
Key Features

- MPEG2 SD/HD and MPEG4 SD/HD Encoding Module optional
- CVBS/SDI/HDMI/YPbPr...signals in & 1*ASI in
- Support DVB-S/S2/S2X RF (IF Optional) output and ASI output
- LCN support (Logical Channel Number)
- Output Frequency: 950-2150MHz; IF: 50-200MHz
- QPSK, 8PSK, 16APSK, 32APSK, 8PSK-L, 16APSK-L, 32APSK-L Constellations
- **Support RF CID setting**
- Low latency achieved (CVBS Encoding modules excluded)
- Support BISS function
- Support 10MHz reference clock
- Support Web NMS and front panel LCD & Keyboard control
- Upgrade device through web NMS

CID TEST SAMPLE ILLUSTRATION



Principle Chart



Technical Specifications



(Plan A) Single SDI Encoding Input

Video

Encoding MPEG2; MPEG4 AVC/H.264

Input	SDI*1
Resolution	1920*1080_60P, 1920*1080_50P, (-for MPEG4 AVC/H.264 only) 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P 720*480_60i, 720*576_50i

Audio	
encoding	MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC
Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps



(Plan B) Double SDI Encoding Input

Video	
Encoding	H.264/AVC High Profile Level 4.0 (HD)
Input	SDI*2
Resolution	1920*1080_60P, 1920*1080_50P, 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P 720*480_60i, 720*576_50i

Audio	
encoding	MPEG1 Layer II (1 *Stereo or 2*Mono)
Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps



(Plan C) Single HDMI Encoding Input

Video	
Encoding	MPEG2; MPEG4 AVC/H.264
Input	HDMI*1
Resolution	1920*1080_60P, 1920*1080_50P, (-for MPEG4 AVC/H.264 only) 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P

	720*480_60i, 720*576_50i
Audio	
encoding	MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC
Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps



(Plan D) HDMI/YPbPr/CVBS 3-in-1 Encoding Input

Video (HDMI)

Encoding	MPEG2; MPEG4 AVC/H.264
Interface	HDMI*1
Resolution	1920*1080_60P, 1920*1080_50P, (-for MPEG4 AVC/H.264 only) 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P

Audio (HDMI)

Encoding	MPEG1 Layer II; MPEG2-AAC; MPEG4-AAC
Interface	HDMI*1
Sample rate	48KHz
Bit rate	64/96/128/ 192/256/320kbps

Video (YPbPr/CVBS)

Encoding	MPEG2; MPEG4 AVC/H.264
Interface	YPbPr*1/CVBS *1
Resolution	CVBS: 720x576_50i (PAL); 720x480_60i (NTSC) YPbPr: 1920*1080_60i, 1920*1080_50i; 1280*720_60p, 1280*720_50P

Audio (L/R)

Encoding	MPEG1 Layer II; MPEG2-AAC; MPEG4-AAC
Interface	1*Stereo/2*mono
Sample rate	48KHz
Bit rate	64/96/128/ 192/256/320kbps



(Plan E) Single CVBS Input Encoding

Video

Encoding	Option 1: MPEG-2 MP@ML(4:2:0); Option 2: H.264 High Profile Level 3.0 (SD)
Input	CVBS*1 (BNC Type)
Resolution	720*576 (PAL), 720*480 (NTSC)

Audio

encoding	MPEG1 Layer II
Input	Unbalanced 1 stereo/2 Mono
Sample rate	48KHz
Bit rate	64kbps, 96kbps,128kbps, 192kbps, 256kbps, 320kbps



(Plan F) Dual CVBS Encoding Input

Video	
Encoding	MPEG-2 MP@ML(4:2:0)
Input	CVBS*2 (BNC Type)
Resolution	720*576 (PAL), 720*480 (NTSC)

Audio	
encoding	MPEG1 Layer II
Input	Unbalanced 1 stereo/2 Mono
Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps



(Plan G) HDMI/SDI/YPbPr/CVBS/XLR/AES Encoding Input

Video			
Encoding	MPEG-2 HD/SD or MPEG-4 AVC/H.264 HD/SD		
Input	HDMI/SDI//YPbPr/CVBS/		
Resolution	Input	Output	Interface Applicable
	1920x1080i@60	1920x1080,	HDMI SDI YPbPr
	1920x1080i@59.94	1440x1080, 1280x1080i,	
	1920x1080i@50	960x1080i	
	1280x720p@60	1280x720, 960x720p, 640x720p	HDMI SDI YPbPr
	1280x720p@59.94		
	1280x720p@50		
	720x576i@50	720x576, 704x576, 640x576, 544x576, 528x576, 480x576, 352x576	SDI, CVBS

		720x480, 704x480, 640x480, 544x480, 528x480, 352x480	SDI CVBS
Bit rate	0.52 – 60.00 Mbps		
Rate Control	CBR		
GOP Structure	Auto, IP, IPB, IPBB, IPBBB		
Aspect Ratio	4:3, 14:9 (for SD video), 16:9 (for HD video)		
Chroma	4:2:0, 4:2:2		
Advanced Pretreatment	De-interlacing, noise reduction, sharpening		

Audio	
encoding	MPEG-1 Layer II, HE-AAC (v1&v2), LC-AAC, DD AC3 (2.0, 5.1 available); DD AC3 passthrough (for SDI in)
Input	2xXLR, 4xAES, 1xHDMI, 1xSDI (support maximum 4 stereos synchronous processing or one DD 5.1 CH processing)
Sample rate	48KHz
Bit rate	32Kbps~384Kbps

Low delay 150ms, 200ms, 350ms, 650ms
options

Generals

Input Interface	1/2*CVBS /1*SDI /1*HDMI/1*(HDMI+YPbPr+CVBS 3-in-1) optional			
Output	DVB-S/S2/S2X RF output; (IF Optional) ASI output			
Modulation Section	Standard	DVB-S	DVB-S2	DVB-S2X
	Outer coding	RS Coding	BCH Coding	BCH Coding
	Inner coding	Convolution	LDPC Coding	LDPC Coding
	Constellation	QPSK	QPSK,8PSK, 16APSK,32APSK	QPSK,8PSK, 16APSK,32APSK 8PSK-L,16APSK-L,32APSK-L
	FEC/ Convolution Rate	1/2, 2/3, 3/4, 5/6, 7/8	QPSK: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10	QPSK: 13/45, 9/20, 11/20 8PSK: 23/36, 25/36, 13/18 16APSK: 26/45, 3/5, 28/45, 23/36, 25/36, 13/18, 7/9, 77/90 32APSK: 32/45, 11/15, 7/9 8PSK-L: 5/9, 26/45 16APSK-L: 5/9, 8/15, 1/2, 3/5, 2/3 32APSK-L: 2/3
	Roll-off Factor	0.2,0.25,0.35	0.2, 0.25, 0.35	0.05, 0.10, 0.15
	Symbol Rate	0.5~45Msps	0.5~40Msps (32APSK); 0.5~45Msps (16APSK/8PSK/QPSK)	0.5~40Msps(32APSK,32APSK-L); 0.5~45 Msps (16APSK/8PSK/QPSK/16APSK-L/8PSK-L)
	BISS Scramble	Mode 0, mode 1, mode E		
System	Local Control	LCD + control buttons		
	Remote Control	Web NMS		
	Low Latency Mode	Normal, Mode 1, Mode 2		
	Language	English		
Physical Specification	Demission	410×460×44mm (W*L*H)		
	Temperature	0~45℃(operation), -20~80℃(storage)		
	Weight	4.5kgs		
	Power Supply	AC 100-240V 50/60Hz 2A		