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HPS8403F DVB-S2X Encoder Modulator



Product Overview

HPS8403F DVB-S/S2/S2X Encoder & Modulator is an integrated device with multi-function. Its pluggable design makes it convenient to change encoding module (SDI/HDMI/YPbPr/CVBS...) as needed. It is also equipped with 1ASI input for re-mux and modulation.

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

- HEVC/H.265, MPEG-4 AVC/H.264, MPEG2 SD/HD Encoding Module optional
- SDI/HDMI/YPbPr/ CVBS...in & 1*ASI in
- Multiple channel audio inputs optional
- Support **DVB-S/S2/S2X** RF output (950-2150MHz) and ASI output
- QPSK, 8PSK, 8APSK, 16APSK, 32APSK Constellations
- **Support RF CID setting**
- Support RF 24V power output
- Support Low latency
- Support BISS function

- Support 10MHz reference clock
- Support Web NMS and front panel LCD & Keyboard control
- Upgrade device through web NMS

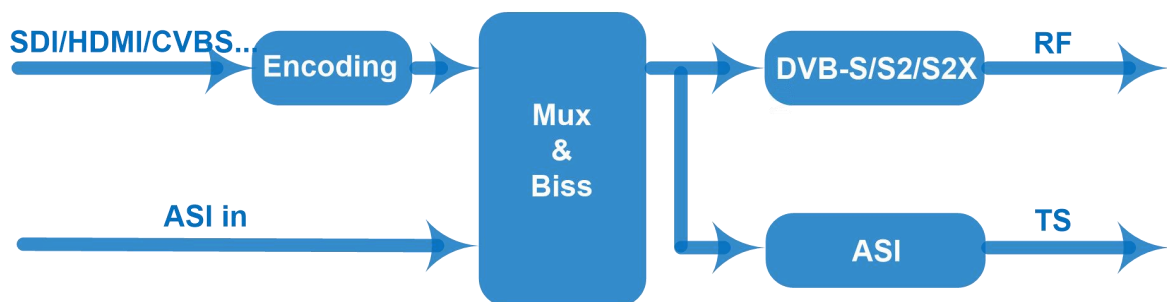
CID TEST SAMPLE ILLUSTRATION

The screenshot displays the 'DVB Carrier ID Extraction' web interface. On the left is a navigation menu with buttons: HOME, CONFIG., MONIT., SCAN, CID (highlighted), and STATUS. The main area shows the following settings and status:

- CID Extraction:** ON
- RF Input Selected:** RF Input 1
- L-Band CID Frequency:** 999.993
- Demod Lock:** [Green LED]
- CID Synchro:** [Green LED]
- CID Demod:** [Green LED]
- CID Content Available:** [Green LED]
- CID Extraction Progress:** [Progress bar at ~80%]
- Global Unique Identifier:** AA:AA:BB:CC:DD:EE:FF:00:11 [Green LED]
- Format:** 1 [Green LED]
- Latitude:** 6.55.36,N [Green LED]
- Longitude:** 26.21.44,E [Green LED]
- Telephone:** +000000223344556677 [Green LED]
- User Data:** 5555252525252 [Green LED]

At the bottom, there is a 'Commands List' section with a dropdown menu showing 'Get_Address' and a 'Set_Standy_Unlock' button. Below this are status indicators: Connected [Green LED], Traffic [Yellow LED], Alarm [Grey LED], Demod/FEC 1 [Green LED], Demod/FEC 2 [Red LED], ASI 1 [Green LED], and ASI 2 [Red LED]. The TX and RX fields show 'TX 11 33 010103' and 'RX TX 11 33' respectively.

Principle Chart



Technical Specifications

- H.265/H.264 video format
- Up to 4 stereo audio inputs
- OSD Insertion

OSD (Logo/QR Code) Insertion



Logo: support jpg/jpeg/bmp/gif/png file; drag to any position

QR Code: creat QR code quickly; add text/logo; custom size; drag to any position





Single HDMI/SDI/YPbPr Input

Video			
Encoding	HEVC/H.265; MPEG-4 AVC/H.264		
Input	HDMI/SDI/YPbPr		
Resolution	Input	Output	Interface Applicable
	1920×1080_60P, 1920×1080_60i, 1920×1080_59.94P, 1920×1080_59.94i	1920×1080_60P	HDMI SDI
	1920×1080_50P, 1920×1080_50i	1920×1080_50P	
	1280×720_60P, 1280×720_59.94P,	1280×720_60P	
	1280×720_50P	1280×720_50P	
	1920×1080_60i,	1920×1080_60i,	
			YPbPr

	1920×1080_50i, 1280×720_60P, 1280×720_50P	1920×1080_50i, 1280×720_60P, 1280×720_50P	
Bit rate	4Mbps~20Mbps (for MPEG-4 AVC/H.264) 0.5Mbps~20Mbps (HEVC/H.265)		
Chroma	4:2:0		
Rate Control	CBR/VBR		
GOP Structure	IBBP, IPPP		
Advanced Pretreatment	De-interlacing, Noise Reduction, Sharpening		

Audio	
encoding	MPEG-1 Layer 2, LC-AAC, HE-AAC, HE-AAC V2, AC3 Passthrough
Input	Digital: HDMI/SDI/AES; Analog: XLR
Channel	AES/SDI: Up to 4 stereos HDMI: 1 stereo XLR: Up to 2 stereos

Sample rate	48KHz
Bit rate	48Kbps~384Kbps (MPEG-1 Layer 2 & LC-AAC) 24 Kbps~128 Kbps (HE-AAC) 18 Kbps~56 Kbps (HE-AAC V2)
Audio Gain	0-255



Single HDMI/SDI/YPbPr/CVBS Input

Video

Input	HDMI/SDI/YPbPr/ CVBS(CC only)
Encoding	MPEG2; MPEG4 AVC/H.264
Bit rate	1-19.5Mbs
Aspect Ratio	4:3, 16:9
Chroma	4:2:0
Resolution Input	1920*1080_60P, 1920*1080_50P, (-for MPEG4 AVC/H.264 only), 1920*1080_60i, 1920*1080_59.94i, 1920*1080_50i, 1280*720_60p, 1280*720_50P, 720*480_60i, 720*576_50i
Resolution Output	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

Interface	XLR, AES, SDI, HDMI(No YPbPr for video in)
Channel	maximum 2 stereos
encoding	MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, AC3 AC3 Passthrough(only one audio in this case)
Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps



Single SDI Input

Video	
Input	SDI*1
Encoding	MPEG2; MPEG4 AVC/H.264
Bit rate	1-19.5Mbps
AspectRatio	4:3, 16:9
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, AC3(Optional)
Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps



Single HDMI Input-Low latency

Video	
Input	HDMI*1
Encoding	MPEG2; MPEG4 AVC/H.264
Bitrate	1-19.5Mbps
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



HDMI/YPbPr/CVBS Input

Video (HDMI)	
Interface	HDMI*1
Encoding	MPEG2; MPEG4 AVC/H.264
Bitrate	1-19.5Mbps
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)	

Interface	YPbPr*1/CVBS *1
Encoding	MPEG2; MPEG4 AVC/H.264
Bitrate	1-19.5Mbps
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



2*(S-Video + YPbPr + CVBS) Input

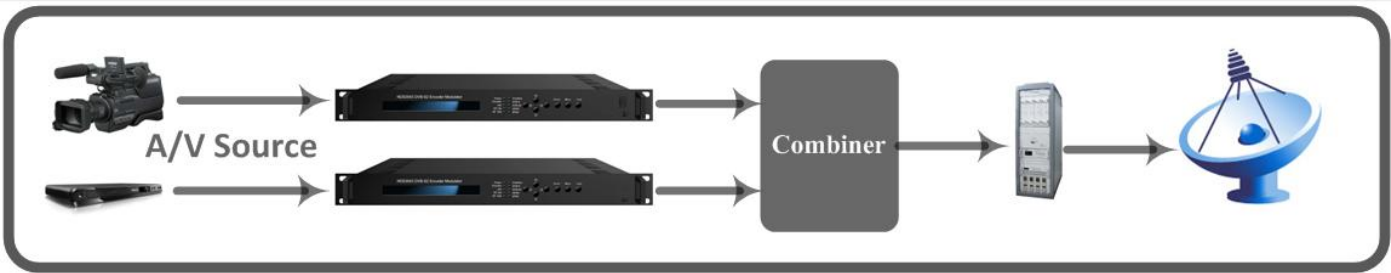
Video	
Encoding	Option 1: MPEG-2 MP@ML(4:2:0) Option 2: MPEG-2 & MPEG-4 AVC/H.264 (4:2:0)
Input	2*S-Video/YPbPr/CVBS (RCA Type)
Resolution	720*576 (PAL); 720*480 (NTSC)
Bit rate	Option 1: 1~19.50 Mbps Option 2: 1~10.00 Mbps

Audio	
encoding	Option 1: MPEG1 Layer II Option 2: MPEG1 Layer II; LC-AAC; HE-AAC and Dolby Digital AC3 2.0(Optional)
Input	2 Stereo/Mono
Sample rate	48KHz
Bit rate	64kbps, 96kbps,128kbps, 192kbps, 256kbps, 320kbps

General

Input Interface	1*(HDMI/SDI/YPbPr/CVBS 4-in-1) optional ASI input			
Output	DVB-S/S2/S2X RF output ; ASI output as mirror of RF			
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, 8APSK, 16APSK, 32APSK
	FEC/ Convolution Rate	1/2, 2/3, 3/4, 5/6, 7/8	QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10	QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 , 23/36, 25/36, 13/18 8APSK: 5/9-L, 26/45-L 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 , 1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36 , 2/3-L, 25/36, 13/18, 7/9, 77/90 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10, 2/3-L, 32/45, 11/15, 7/9
	Roll-off Factor	0.2,0.25,0.35	0.2, 0.25, 0.35	0.05, 0.10, 0.15, 0.2, 0.25, 0.35
	Symbol Rate	0.5~45Msps	0.5~40Msps (32APSK); 0.5~45Msps (QPSK/8PSK/16APSK)	0.5~40Msps(32APSK); 0.5~45 Msps (QPSK/8PSK /8APSK/16APSK)
	RF range	950-2150MHz		
	Output level	+3dBm~-28.5dBm		
BISS	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 Spec	Demission	410×460×44mm (W*L*H)		
	Temperature	0~45℃(operation), -20~80℃(storage)		
	Power Supply	AC 100-240V 50/60Hz 2A		

System Connection Sample



Order Guide

	HPS8543A	HPS8543F	HPS8403F
DVB-S/S2	●	●	●
DVB-S2X			●
RF Output(950-2150MHz)		●	●
IF Output(50-200 MHz)	●		