



NDS3543D

DVB-S2X Encoder Modulator



Product Overview

NDS3543D DVB-S/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. The encoded TS/ASI in can pass-through or TS mux. It outputs ASI and DVB-S/S2X RF.

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, NDS3543D 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 output and ASI output
- Output Frequency: 950-2150MHz
- QPSK, 8PSK, 8APSK, 16APSK, 32APSK Constellations



All the specifications are subject to change without any further notice. All rights reserved.

Address: No. 10 & No. 12, Wuxing Fourth Road, Wuhou District, Chengdu 610045, Sichuan, P.R. China
www.dsdvb.com/English Tel: +86-028-85558928 Fax: +86-028-85585255 Email: sunyu@dsvb.com

Technical Specifications



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
	1920×1080 0i@60	1920×1080,	HDMI SDI YPbPr
	1920×1080 0i@59.94	1440×1080, 1280×1080i	
	1920×1080 0i@50	, 960×1080i	
	1280×720 p@60	1280×720, 960×720p, 640×720p	HDMI SDI YPbPr
	1280×720 p@59.94		
	1280×720 p@50		
720×576i @50		720×576,	SDI,
		704×576,	CVBS
		640×576,	HDMI
		544×576,	
		528×576,	
480×576,			
352×576			
720×480i @59.94		720×480,	SDI
		704×480,	
		640×480,	

		544×480, 528×480, 352×480	CVBS HDMI
Bit rate	0.5– 60.00 Mbps		
Rate Control	CBR		
GOP Structure	Auto, IP, IPB, IPBB, IPBBB		
Aspect Ratio	4:3, 14:9, 16:9 (for SD video)		
Chroma	16:9 (for HD video) 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	2×XLR, 4×AES, 1×HDMI, 1×SDI (support maximum 4 stereos synchronous processing or one DD 5.1 CH processing)		
Sample rate	48KHz		
Bit rate	32Kbps~384Kbps		
Low delay options	150ms, 200ms, 350ms, 650ms		



Single SDI Encoding 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



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, AAC, AC3(Optional)
Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps



Single HDMI Encoding Input Low latency

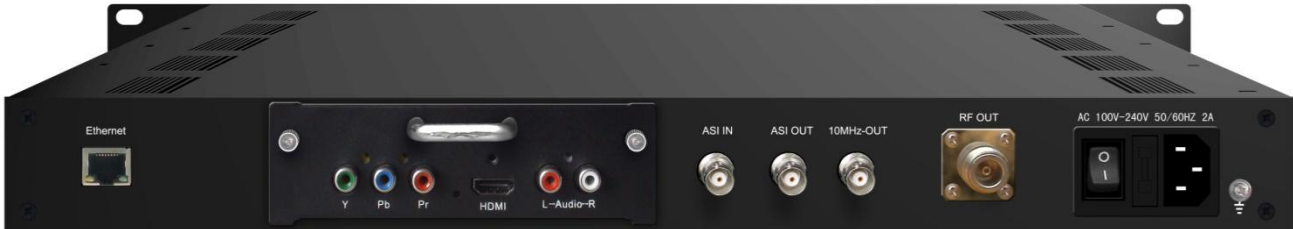
Video	
Input	HDMI*1

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
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Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps

Audio	
encoding	MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC



HDMI/YPbPr/CVBS 3-in-1 Encoding 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
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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
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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) Encoding 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);

Resolution	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;

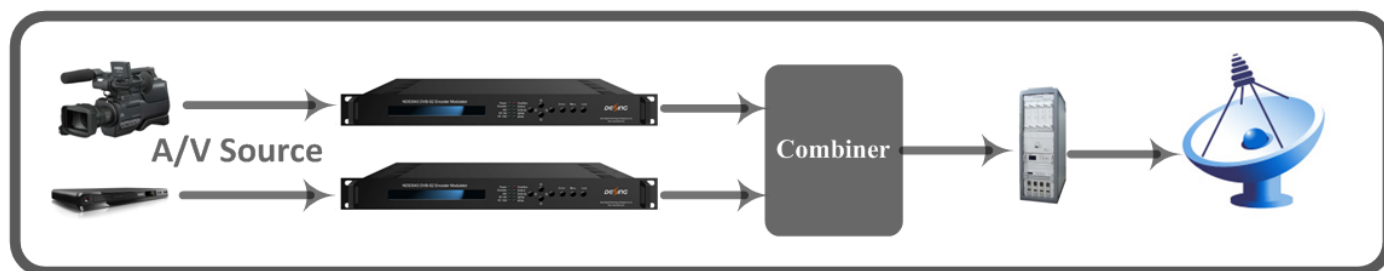
	HE-AAC and Dolby Digital AC3 2.0(Optional)
Input	2 Stereo/Mono

Sample rate	48KHz
Bit rate	64kbps, 96kbps,128kbps, 192kbps, 256kbps, 320kbps

Generals

Input Interface	1/2*CVBS /1*SDI /1*HDMI/1*(HDMI+YPbPr+CVBS 3-in-1) optional DVB-S/S2/S2X RF output; ASI input			
Output	DVB-S/S2/S2X RF output ;950-2150MHz ASI output same as 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)
	BISS Scramble	Mode 1, Mode E		
	Output level	+3dBm~-28.5dBm		
	System	Local Control	LCD + control buttons	
Remote Control		Web NMS		
Low Latency Mode		Normal, Mode 1, Mode 2		
Language		English		
Physical Specificati on	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

	NDS3543A	NDS3543C	3543D
DVB-S/S2	●	●	●
DVB-S2X			●
RF Output(950-2150MHz)		●	●
IF Output(50-200 MHz)	●		