NDS3544MD

Encoder Modulator

12 HD-SDI → 16* DVB-C/8*DVB-T Digital RF

Product Overview

NDS3544MD HD encoder modulator is a professional high integration device which includes encoding, multiplexing, scrambling and modulating. It supports 12 HD-SDI with CC inputs, one DVB-C tuner input and maximum 512 IP input through Data1 (GE) port. It also supports DVB-C RF out with 16 non-adjacent carries or DVB-T RF out with 8 non-adjacent carriers and supports 16 MPTS as mirror of 16 carriers or 8 MPTS as mirror of 8 carriers through Data2 (GE) output port. To meet customers' various requirements, it is also equipped with 1 ASI output(optional) as mirror of one of MPTS.

Key features

- **12 HD-SDI inputs with MPEG2 & MPEG4 AVC/H.264 Encoding**
- **1DVB-C(ATSC optional) tuner input for re-mux**
- **Each carrier out channel process maximum 32 IP from DATA1 input port (UDP&RTP protocol)**
- **MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, Dolby Digital AC3 (2.0) encoding (Optional), AC3 (2.0/5.1) passthrough**
- **Support 16 groups multiplexing/Scrambling/DVB-C modulating**
- **Support 8 groups multiplexing/DVB-T/ATSC modulating---Optional**

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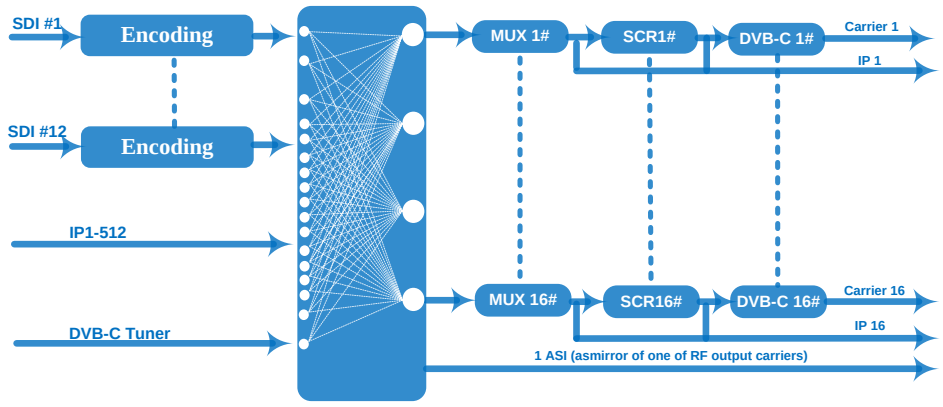
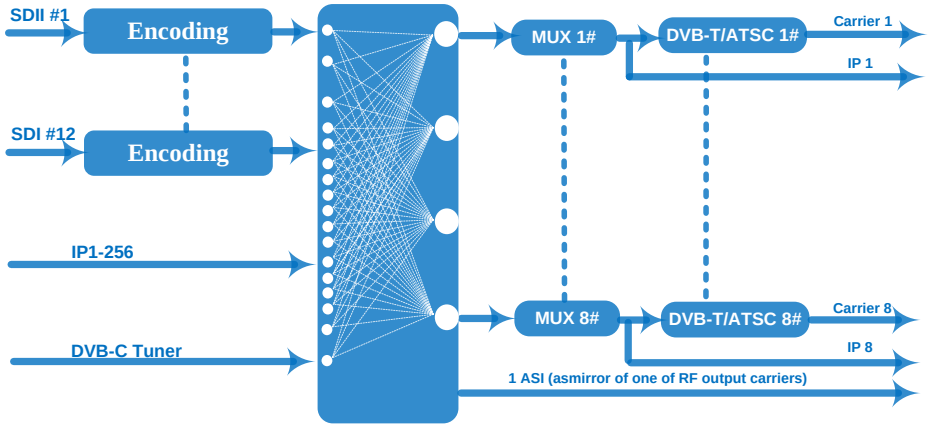
- **Support 6 groups multiplexing/ISDB-T modulating---Optional**
- **Support 1 ASI out as mirror of one of RF output carriers---Optional**
- **Support 16 MPTS IP (DATA2 port only) output over UDP, RTP/RTSP**
- **Support 8 MPTS IP (DATA2 port only) output over UDP, RTP/RTSP-- DVB-T/ATSC RF out**
- **Support 6 MPTS IP (DATA2 port only) output over UDP, RTP/RTSP-- ISDB-T RF out**
- **Support PID remapping/ accurate PCR adjusting/PSI/SI editing and inserting**
- **Control via web management, and easy updates via web**

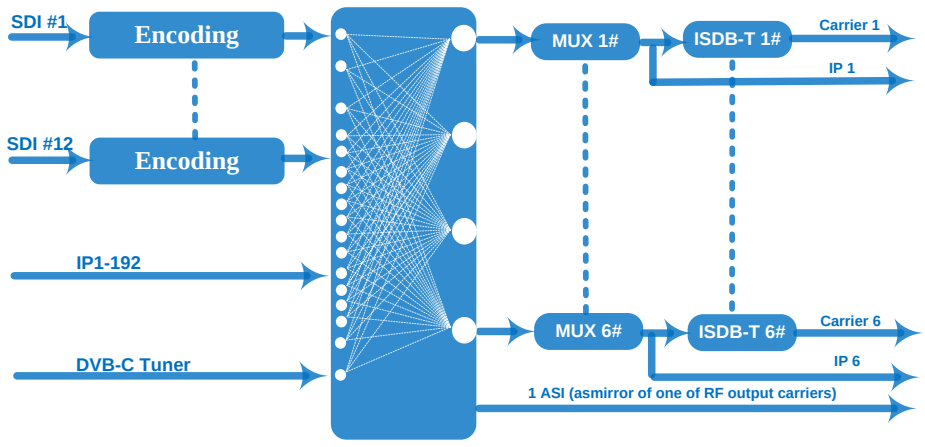
Principle Chart



DVB-C Principle Chart



DVB-T/ATSC Principle Chart



ISDB-T Principle Chart

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Technical specification

Input	12 HD-SDI inputs with CC 1 DVB-C (ATSC optional)Tuner for re-mux, F type interface 512 IP input over UDP and RTP, DATA1, RJ45—DVB-C RF out 256 IP input over UDP and RTP, DATA1, RJ45—DVB-T/ATSC RF out 192 IP input over UDP and RTP, DATA1, RJ45—ISDB RF out		
Video	Resolution	Input	1920*1080_60p, 1920*1080_50p,1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P, 720*480_60i, 720*576_50i
		Output	1920*1080_60p, 1920*1080_50p,1920*1080_60i, 1920*1080_50i, 1440*1080_60i, 1440*1080_50i, 1280*720_60p, 1280*720_50P, 720*576_50p, 720*576_50i, 720*576_30p, 720*576_25p, 720*480_60p, 720*480_60i,720*480_30p, 720*480_25p,320*240_60p,320*240_50p, 320*240_30p, 320*240_25p,320*180_60p, 320*180_50p, 320*180_30p, 320*180_25p, 960*540_50i, 704*576_50i,704*480_60i, 640*576_50i 640*480_60i, 544*576_50i,544*480_60i,
	Encoding	MPEG2 & MPEG4 AVC/H.264	
	Bit-rate	0.8~19Mbps for H.264 encoding 1~19Mbps for MPEG-2 encoding	
	Rate Control	CBR/VBR	
	GOP Structure	GOP B Frame: 0-3, GOP P Frame: 0-6	
	Advanced Pretreatment	De-interlacing, noise reduction	
Audio	Encoding	MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, Dolby Digital AC3 (2.0) encoding (Optional), AC3 (2.0/5.1) passthrough	
	Sampling rate	48KHz	
	Bit-rate	64Kbps-320kbps each channel	
Multiplexing	Maximum PID Remapping	256 input per channel	
	Function	PID remapping (automatically or manually)	
		Accurate PCR adjusting	
		Generate PSI/ SI table automatically	
Scrambling	Maximum simulcrypt CA	4	
	Standard	ETR289, ETSI 101197, ETSI 103197	
	Connection	Local/remote connection	
Modulation	DVB-C	QAM Channel: 16 non-adjacent carriers output (maximum bandwidth 192MHz) Standard: EN300 429/ITU-T J.83A/B MER: ≥40db RF frequency: 50~960MHz, 1KHz step	

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		RF output level: -20~+10dbm, 0.1db step Symbol Rate: 5.0Msps~7.0Msps, 1ksps stepping		
			J.83A	J.83B
		Constellation	16/32/64/128/256QAM	64/256 QAM
		Bandwidth	8M	6M
	DVB-T	Standard	EN300744	
		FFT mode	2K, 4K, 8K	
		Bandwidth	6M, 7M, 8M	
		Constellation	QPSK, 16QAM, 64QAM	
		Guard Interval	1/4, 1/8, 1/16, 1/32	
		FEC	1/2, 2/3, 3/4, 5/6, 7/8	
		MER	≥42 dB	
		RF frequency	50~960MHz, 1KHz step	
		RF out	8 non-adjacent carriers output (maximum bandwidth 192MHz)	
		RF output level	-20~+10 dBm, 0.1db step	
	ATSC	Standard	ATSC A/53	
		Bandwidth	6M	
		Constellation	8VSB	
		FEC	RS(208 188)+Trellis	
		MER	≥40dB	
		ACL	-55 dBc	
		RF frequency	50~960MHz, 1KHz step	
		RF out	8 non-adjacent carriers output (maximum bandwidth 192MHz)	
		RF output level	-20~+10dbm (for all carriers), 0.5db stepping	
	ISDB-T	Standard	ARIB STD-B31	
		Bandwidth	6M	
		Constellation	QPSK, 16QAM, 64QAM	
		Guard Interval	1/32, 1/16, 1/8, 1/4	
		Transmission Mode	2K, 4K, 8K	
		Code rate	1/2, 2/3, 3/4, 5/6, 7/8	
		MER	≥40dB	
		RF frequency	50~960MHz, 1KHz step	
		RF out	6 non-adjacent carriers output (maximum bandwidth 192MHz)	
		RF output level	-20dBm~+10dBm, 0.1dB stepping	
Stream output	1 ASI output as mirror of one of RF output carriers-Optional 16 MPTS output over UDP and RTP/RTSP as mirror of 16 DVB-C carriers, 8 MPTS output over UDP and RTP/RTSP as mirror of 8 DVB-T/ATSC carriers(Optional) 6 MPTS output over UDP and RTP/RTSP as mirror of 6 ISDB-T carriers(Optional) 1*1000M Base-T Ethernet interface			
System function	Network management (WEB)			
	Chinese and English language			

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	Ethernet software upgrade	
Miscellaneous	Dimension (W×L×H)	482mm×440mm×44mm
	Environment	0~45℃(work)；-20~80℃（Storage）
	Power requirements	AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz

Ordering Information

	IP input	IP output	RF carriers	Scrambling
DVB-C	512	16	16	√
DVB-T	256	8	8	×
ATSC	256	8	8	×
ISDB-T	192	6	6	×

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