



**NDS3544MD**

**Encoder Modulator**

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



## Product Overview

NDS3544M HD encoder modulator is a professional high integration device which includes encoding, multiplexing, scrambling and modulation. It supports 12 HD-SDI with CC inputs, one DVB-C tuner input and 256 IP input through Data1 (GE) port. It also supports DVB-C RF out with 16 adjacent carries or DVB-T RF out with 8 adjacent carriers and supports 1 MPTS as mirror of one of 16 carriers or 8 MPTS as mirror of 8 carriers through Data2 (GE) output port. This full function device makes it ideal for small CATV head end system, and it's a smart choice for hotel TV system, entertainment system in sports bar, hospital, apartment...

## Key features

- **12 HD-SDI inputs with MPEG2 & MPEG4 AVC/H.264 Encoding**
- **1DVB-C tuner input for re-mux**
- **256 IP input over UDP and RTP protocol**



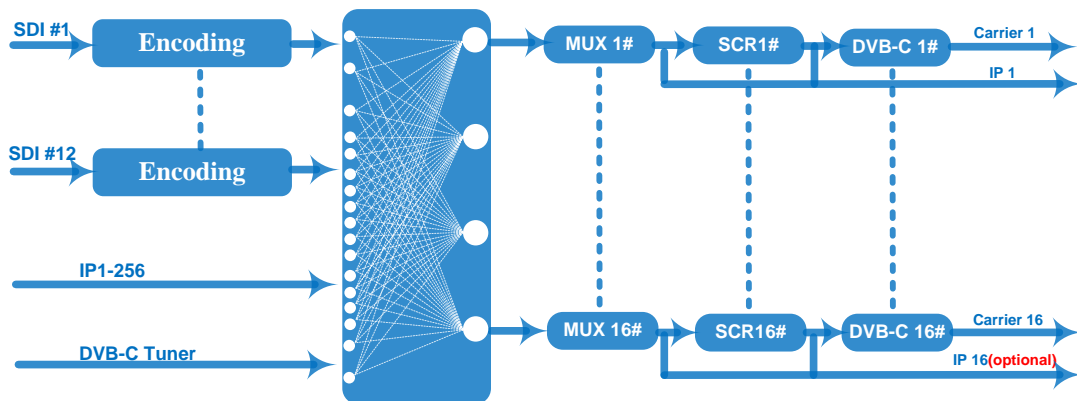
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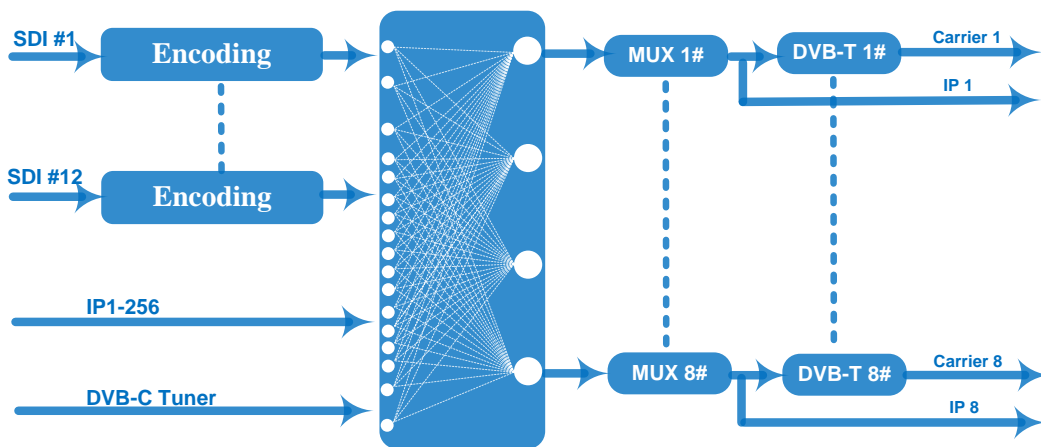
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- MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, Dolby Digital AC3 (2.0) encoding (Optional), AC3 (2.0/5.1) passthrough
- Support 16 groups multiplexing /Scrambling/DVB-C modulating
- **Support 8 groups multiplexing / DVB-T modulating---Optional**
- Support 1 MPTS IP (DATA2 port only) output over UDP, RTP/RTSP
- **Support 8 MPTS IP (DATA2 port only) output over UDP, RTP/RTSP--only for DVB-T RF out**
- Video Trans-coding: MPEG-2 SD/HD and H.264 SD/HD any-to-any
- Audio Trans-coding: MPEG-1 Layer 2, AAC and AC3 any-to-any
- Support PID remapping/ accurate PCR adjusting/PSI/SI editing and inserting
- Control via web management, and easy updates via web
- Lowest cost per channel, breakthrough price

### Principle Chart



### DVB-C Principle Chart

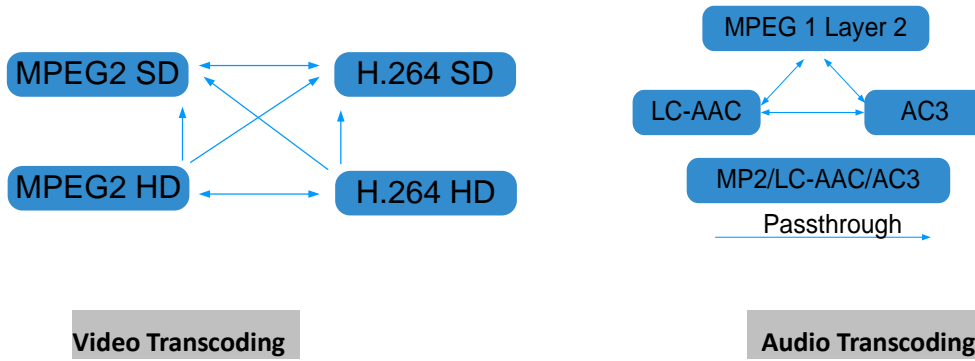


### DVB-T Principle Chart

### Transcoding Mode Example



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## Technical specification

<b>Input</b>	12 HD-SDI inputs with CC 1 DVB-C Tuner for re-mux, F type interface 128 IP input over UDP and RTP, DATA1, RJ45		
<b>Video</b>	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,
	Trans-coding		2*MPEG2 HD → 2*MPEG2/H.264 HD; 2*MPEG2 HD → 2*MPEG2/H.264 SD; 4 *MPEG2 SD → 4 *MPEG2/H.264 SD;
			2* H.264 HD → 2*MPEG2/H.264 HD; 2* H.264 HD → 2*MPEG2/H.264 SD; 4* H.264 SD → 4 *MPEG2/H.264 SD
	Encoding		MPEG2 & MPEG4 AVC/H.264
	Bit-rate		0.8~19Mbps for H.264 encoding 1~19.5Mbps 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
	<b>Audio</b>	Encoding	
Trans-coding			MPEG-1 Layer 2, LC-AAC and AC3 any-to-any or pass through
Sampling rate			48KHz

	Resolution	24-bit	
	Bit-rate	64Kbps-320kbps each channel	
<b>Multiplexing</b>	Maximum PID Remapping	180 input per channel	
	Function	PID remapping ( automatically or manually)	
		Accurate PCR adjusting	
Generate PSI/ SI table automatically			
<b>Scrambling</b>	Maximum simulcrypt CA	4	
	Standard	EN300 429/ITU-T J.83A/B	
	Connection	Local/remote connection	
<b>Modulation</b>	DVB-C	QAM Channel: 16	
		Standard: EN300 429/ITU-T J.83A/B	
		MER: $\geq 40$ db	
		RF frequency: 50~960MHz, 1KHz step	
	RF output level: -20~+10dbm (87~107 db $\mu$ V), 0.1db step		
	Symbol Rate: 5.0Msps~7.0Msps, 1ksps stepping		
	Constellation: 16/32/64/128/256QAM		
		J.83A	J.83B
	Constellation	16/32/64/128/256QAM	64/256 QAM
	Bandwidth	8M	6M
	DVB-T	Standard	EN300744
FFT mode		2K,	
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		$\geq 42$ dB	
RF frequency		50~960MHz, 1KHz step	
RF out		8*RF COFDM DVB-T out (8 carriers combined output)	
RF output level	-28~ -3 dBm (77~97 db $\mu$ V), 0.1db step		
<b>Stream output</b>	RF output (F type interface)		
	1 MPTS output over UDP and RTP/RTSP as mirror of one of 16 DVB-C carriers, 8 MPTS output over UDP and RTP/RTSP as mirror of 8 DVB-T carriers(Optional)		
	1*1000M Base-T Ethernet interface		
<b>System function</b>	Network management (WEB)		
	Chinese and English language		
	Ethernet software upgrade		
<b>Miscellaneous</b>	Dimension (W×L×H)	482mm×410mm×44mm	
	Approx weight	8kg	
	Environment	0~45°C(work); -20~80°C (Storage)	
	Power requirements	AC 110V $\pm$ 10%, 50/60Hz, AC 220 $\pm$ 10%, 50/60Hz	
	Power consumption	20W	