



NDS3544M

Encoder Modulator

12 HDMI → 16* DVB-C/8*DVB-T/8*ATSC/6*ISDB-T Digital RF



Product Overview

NDS3544M HD encoder modulator is a professional high integration device which includes encoding, multiplexing, scrambling and modulating. It supports 12 HDMI and 12 CC inputs, one DVB-C (ATSC optional) tuner input and maximum 512 IP input through Data1 (GE) port. It also supports DVB-C RF out with 16 non-adjacent carriers or DVB-T/ATSC RF out with 8 non-adjacent carriers or ISDB-T RF out with 6 non-adjacent carriers and supports 16 MPTS as mirror of 16 carriers or 8 MPTS as mirror of 8 carriers or 6 MPTS as mirror of 6 carriers through Data2 (GE) output port. To meet customers' various requirements, it is also equipped with 1 ASI output as mirror of one of RF output carriers. This full function device makes it ideal for small CATV head end system.

Key features

- 12 HDMI inputs with MPEG2 & MPEG4 AVC/H.264 Encoding
- 12 CC(Closed Caption) input port
- 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),



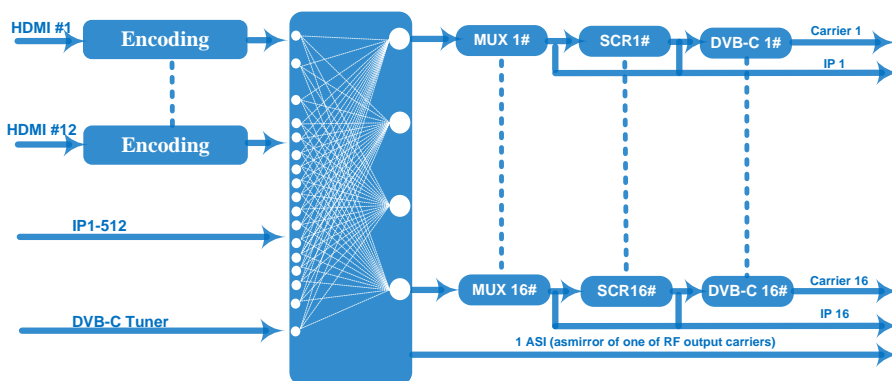
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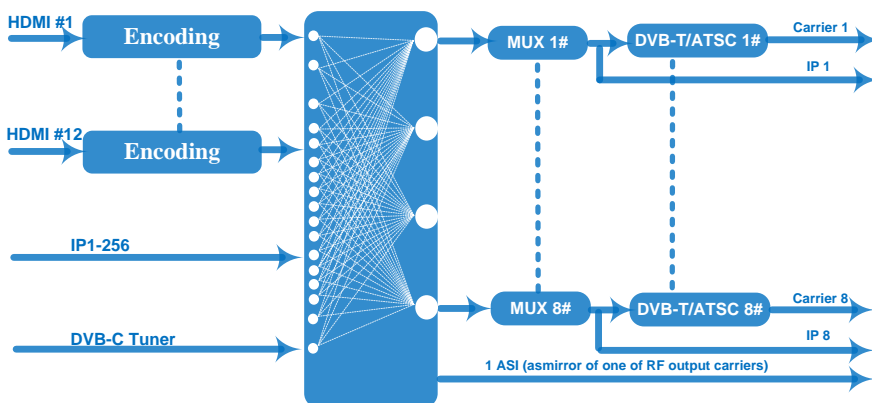
AC3 (2.0/5.1) passthrough

- Support 16 groups multiplexing/Scrambling/DVB-C modulating
- Support 8 groups multiplexing/DVB-T/ATSC modulating---Optional
- 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

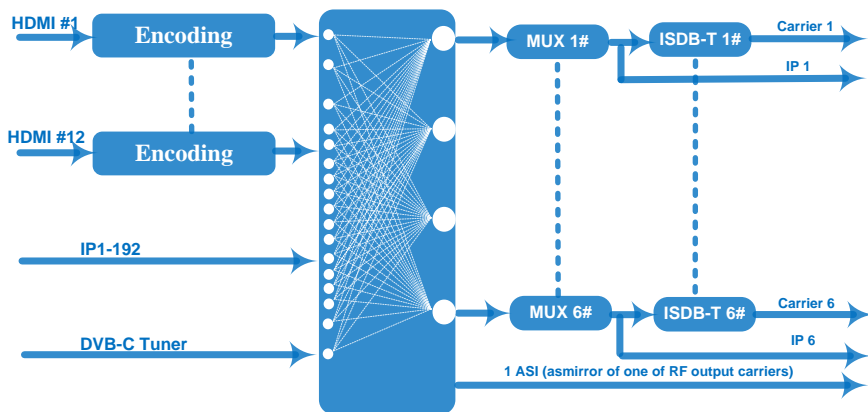
Principle Chart



DVB-C Principle Chart



DVB-T/ATSC Principle Chart



ISDB-T Principle Chart

Technical specification

Input	12 HDMI inputs	
	12 CC(closed caption) input, BNC interface	
Input	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	
Input	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	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,
Video	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	180 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: ≥ 40 db	
		RF frequency: 50~960MHz, 1KHz step	
	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		≥ 40 dB	
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	≥ 40 dB	
	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 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	×