



**NDS3544IV**



## Encoder Modulator



**HEVC/H.265 & MPEG 4 AVC/H.264 Encoding**

**Up to 2160p 30Hz**

**Adopts Highest compression format—B frame**

**HDMI to DVB-C/T, ATSC, ISDBT RF out**

**Provides stable bitrate and smooth TS for modulating**

### Product Overview

NDS3544IV is Dexin's professional high integration encoder modulator which supports HEVC/H.265 and MPEG 4 AVC/H.264 HD encoding and supports up to 2160P.

It supports maximum 24 HDMI (1.4) input, one DVB-C/T/(T)/ISDBT/ATSC (optional) tuner input and maximum 512 IP input from Data1 (GE) port. After encoding, multiplexing, scrambling and modulation, it supports DVB-C/-T/ATSC/ISDBT RF out, and it also supports IP (MPTS) out as mirror of carriers through Data 2 (GE) output port.

To meet customers' various requirements, it is also equipped with 1 ASI output (Optional) as mirror of one of RF output carriers.

### Key Features

- **HEVC/H.265 and MPEG 4 AVC/H.264 video encoding**
- **8/12/16/20/24 HDMI (1.4) input, HDCP 1.4**
- **MPEG1 Layer II, LC-AAC, HE-AAC, HE-AAC V2 audio encoding, AC3 passthrough, and support audio gain adjustment**
- **Support up to 2160p 30Hz**
- **Ultra low bit rate: save 75% bandwidth**

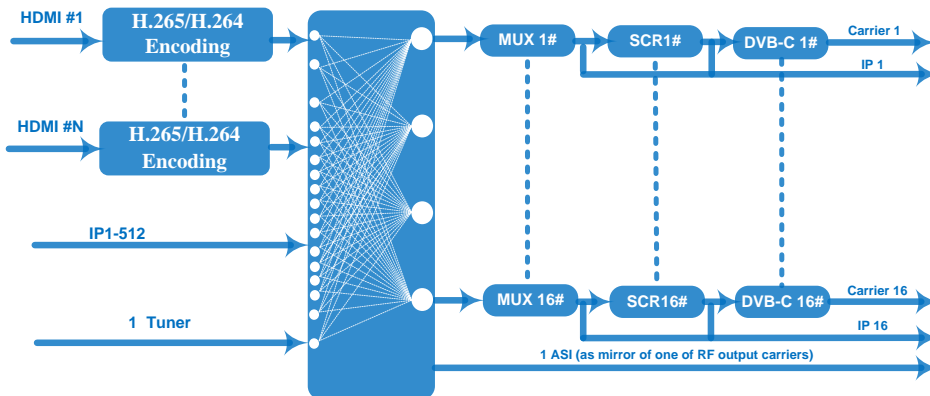


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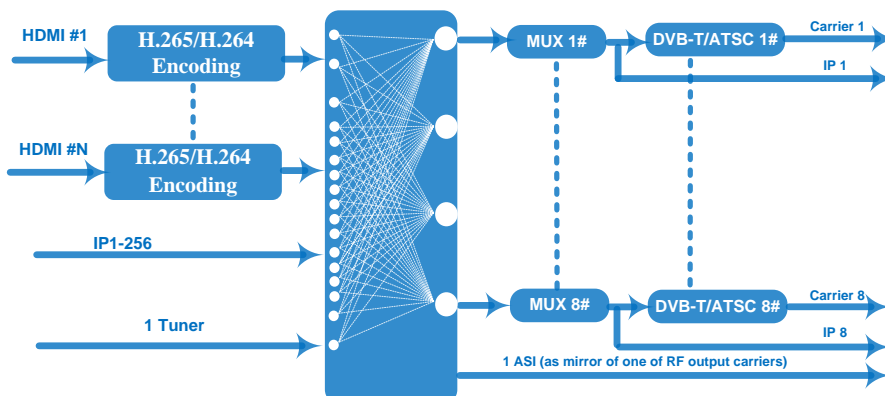
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- Enhance picture quality: Advanced compressing algorithm
- 1 DVB-C/T/(T)/ISDBT/ATSC (optional) tuner input for re-mux
- Each output carrier channel processes maximum 32 IP from DATA1 input port (UDP&RTP protocol)
- Support 16 groups multiplexing/Scrambling/DVB-C modulating
- Support 8 groups multiplexing/DVB-T/ATSC modulating or 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 –DVB-C RF out
- 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

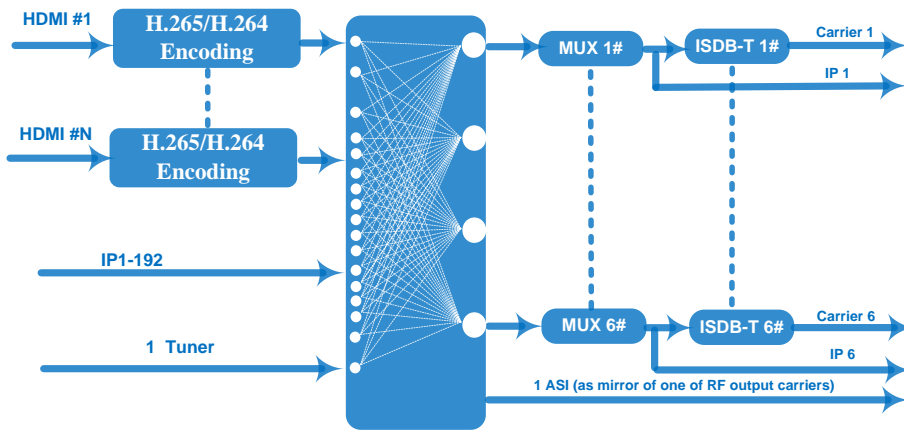
## Principle Chart



DVB-C Principle Chart



DVB-T/ATSC Principle Chart



ISDB-T Principle Chart

## Technical Specification

<b>Input</b>	8/12/16/20/24 HDMI (1.4) input, HDCP 1.4		
	1 DVB-C/T/(T)/ISDBT/ATSC (optional) Tuner for re-mux, F type interface		
<b>Video</b>	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		
	Encoding Format	HEVC/H.265, MPEG 4 AVC/H.264	
	Resolution	3840×2160_30P, 3840×2160_29.97P (Encoding 2 CHs per module for H.265, and encoding 1 CH for H.264 ) 1920×1080_60P,1920×1080_59.94P,1920×1080_50P, (Encoding 4 CHs per module for H.265, and encoding 2 CHs for H.264) 1280×720_60P, 1280×720_59.94P, 1280×720_50P (Encoding 4 CHs per module for H.264 and H.265)	
	Bit-rate	0.5Mbps~20Mbps (each channel)	
	Rate Control	CBR/VBR	
	GOP Structure	IBBP, IPPP	
	Advanced Pretreatment	De-interlacing, Noise Reduction, Sharpening	
	<b>Audio</b>	Encoding Format	MPEG-1 Layer 2, LC-AAC, HE-AAC, HE-AAC V2, AC3 Passthrough
Sampling rate		48KHz	
Audio Gain		0-255 Adjustable	
Bit-rate (each channel)		48Kbps~384Kbps (MPEG-1 Layer 2 & LC-AAC) 24 Kbps~128 Kbps (HE-AAC) 18 Kbps~56 Kbps (HE-AAC V2)	
<b>Tuner Section</b>	DVB-C	Standard	J.83A(DVB-C), J.83B, J.83C
		Input Frequency	60 MHz~890 MHz
		Constellation	16/32/64/128/256 QAM
	DVB-T/(T)	Input Frequency	60 MHz~890 MHz
		Bandwidth	5/6/7/8 M bandwidth
	ATSC-T	Input Frequency	54MHz~858MHz
		Bandwidth	6M bandwidth
	ISDB-T	Input Frequency	60 MHz~890 MHz

<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 (for DVB-C)</b>	Maximum simulcrypt CA	4		
	Standard	ETR289, ETSI 101197, ETSI 103197		
	Connection	Local/remote connection		
<b>Modulation</b>	DVB-C	Standard	EN300 429/ITU-T J.83A/B	
		Symbol Rate	5.0Msps~7.0Msps, 1ksps stepping	
			J.83A	J.83B
		Constellation	16/32/64/128/256QAM	
		Bandwidth	8M	6M
		MER	≥40db	
		RF frequency	50~960MHz, 1KHz step	
		RF out	16 non-adjacent carriers output (maximum bandwidth 192MHz)	
	RF output level	-20~+10dbm (87~117 dbμV), 0.1db step		
	DVB-T	Standard	EN300744	
		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	
		FFT mode	2K,4K, 8K	
		RF frequency	50~960MHz, 1KHz step	
		RF out	8 non-adjacent carriers output (maximum bandwidth 192MHz)	
		RF output level	-20~ +10 dBm (87~117 dbμV), 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
<b>Stream output</b>	1 ASI output as mirror of one of RF output carriers- <b>Optional</b> 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		
<b>System function</b>	Network management (WEB) Chinese and English language Ethernet software upgrade		
<b>Miscellaneous</b>	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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