



NDS3224V



HEVC/H.265 & MPEG 4 AVC/H.264 HD Encoder



- ◆ **Ultra Low Bit Rate:** Save 75% Bandwidth
- ◆ **Enhance Picture Quality:** Advanced Compressing Algorithm
- ◆ **Advanced Pretreatment** De-interlacing, Noise Reduction, Sharpening



News Channel/Movies

1Mbps Full HD



Sports Channel

2Mbps Full HD



B frame(IBBP) GOP Structure



HDMI 1.4



Full HD 1080P



HDCP 1.4



Decoder/STB

STB Available with Ensurity CAS
Decoding Chipset: **Montage CS8051/CS8021**



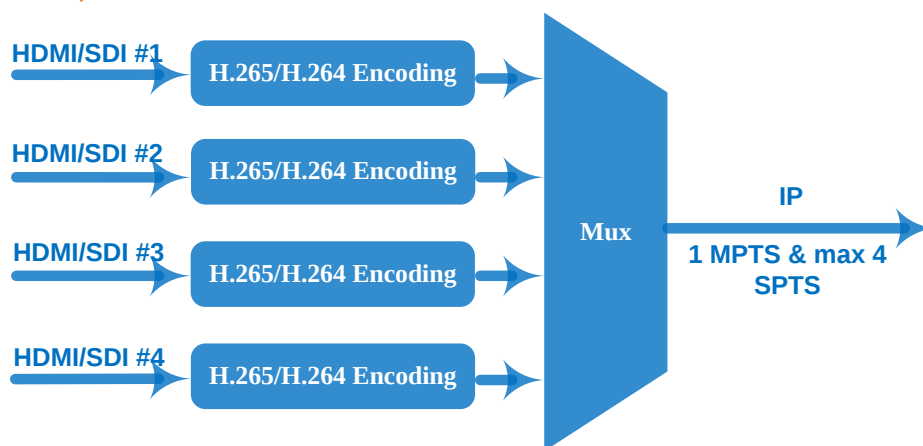
Up to 2160P 30Hz



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

Add: 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@dsdvb.com

Principle Chart of Per Module (the number of encoding channels depend on encoding format and resolution)



Technical Specification

Input	4/8/12×HDMI input (1.4), HDCP 1.4---Option I 4/8/12×SDI input---Option II	
Video Encoding	Encoding Format	HEVC/ H.265 , MPEG 4 AVC/H.264
	Resolution	HDMI 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)
		SDI 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)
		Input: 1920×1080_60i,1920×1080_59.94i,1920×1080_50i Output: 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)
	Chroma	4:2:0
	Bitrate	0.5Mbps~20Mbps (each channel)
	Rate Control	CBR/VBR
	GOP Structure	IBBP, IPPP
	Advanced Pretreatment	De-interlacing, Noise Reduction, Sharpening
Audio Encoding	Encoding Format	MPEG-1 Layer 2, LC-AAC, HE-AAC, HE-AAC V2, AC3 Passthrough

	Sampling rate	48KHz
	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)
	Audio Gain	0~255
Stream output	IP (1 MPTS and maximum 4 SPTS) output over UDP/RTP/RTSP per module, 1000M/100M Base-T Ethernet interface (unicast/ multicast); IPv4, IPv6 output IP null packet filter	
System	Web based management	
	Chinese-English control interface	
	Ethernet software upgrade	
Miscellaneous	Dimension (W× L× H)	482mm×328mm×44mm
	Approx weight	5kg
	Temperature	0~45℃(work), -20~80℃ (Storage)
	Power	AC 100V-220V±10%, 50/60Hz

Dexin HEVC/H.265 encoder's advantages

1. Providing smooth TS for modulators

Dexin HEVC/H.265 encoder adopts Fujitsu chip which offers stable bitrate with lower fluctuation compared with other encoding chips, so it provides smooth TS for modulators. It is widely used in variety of digital distribution systems such as CATV digital head-end, satellite and terrestrial digital TV, etc.

2. Encoding with highest compression format—B frame (IBBP)

What is B Frame?

There are 3 major picture types used in the different video algorithms, they are I, P and B.

They are different in the following characteristics:

I-frames are the least compressible but don't require other video frames to decode.

P-frames can use data from previous frames to decompress and are more compressible than I-frames.

B-frames can use both previous and forward frames for data reference to get the highest amount of data compression.

Frame Type	Byte of data/KB	Compression Ratio
I	18	7:1
P	6	20:1
B	2.5	50:1

In one word, B frame is the highest compression format which makes it possible to process HD video at low bit rate. HEVC/H.265 encoder is not able to save bandwidth unless it is with B frame. In encoder parameters, B frame is often described in GOP (Group of Pictures) structure, like "IBBP".

Updated Date: 1 July, 2019