

4K Encoder (VC-970) Specification①

Item		Function		Comment
Input Video Signal				
4K	I/F	4 pairs x 3G-SDI : SMPTE 424M Standard		Auto-Detection : Level A or B Available for Square Division / 2 Sample Interleave
		1 pair x 12G-SDI : SMPTE 2082M Standard ※Option		
	Video Format	2160p : 59.94 / 50Hz		H.265 MPEG-H HEVC only
HD / SD	I/F	1 pair x SDI : SMPTE 424M, 292M, 259M Standard		
		Video Format	1080p : 59.94 / 50Hz	
	1080i : 29.97 / 25Hz			
	720p : 59.94 / 50Hz			
	480i / 512i : 29.97 Hz			
	576i / 608i : 25Hz			
Input Audio Signal				
Embedded Audio	Sampling Frequency	48kHz		
	The number of channel	Up to 32 channels <2160p> Up to 16 channels <Others>		
Input Synchronization Clock Signal				
TS Clock	Clock Frequency	~160MHz		
Output TS Signal				
MPEG-2 TS	I/F	DVB-ASI: ISO / IEC 13818-1, EN 50083-9		
		Ethernet(GbE): 100 / 1000Base-T		
	Transmission Mode	Packet Mode / Burst Mode		
	Packet Length	188 Byte / 204 Byte		
	Total Rate	~180Mbps		Video Rate: ~160Mbps

4K Encoder (VC-970) Specification②

Item		Function	Comment
Video Encoding			
Encoding Format Profile@Level	H.265 / MPEG-H HEVC	Main 422 10@Level5.1, Main10@Level5.1, Main@Level5.1	
	H.264 / MPEG-4 AVC	High422@Level4.1, High@Level4.1, Main@Level4.1	※Option
Chroma Format		4:2:0 / 4:2:2	
Bit depth		8bit / 10bit	
ES bitrate		~ 160Mbps	
GOP Structure		Intra Column Refresh, I-Only, Long GOP	
Audio Encoding			
Encoding Format		MPEG-2 AAC-LC, MPEG-4 AAC-LC, MPEG-4 AAC-ELD MPEG-1 Layer2, LPCM(SMPTE302M-2002), Dolby-E pass through	
Channel Mode		1/0, 1/0+1/0, 2/0, 3/1, 5.1, 22.2	
ES bitrate		48kbps ~ 3072kbps	
The number of ES		4ES	
ES Format		ADTS, LATM / LOAS	
Others			
Ancillary		ARIB TR-B22, ARIB TR-B23, ITU-R BT.1366	
FEC		ProMPEG CoP#3	
Encryption		BISS mode-0/1/E	※Option
Codec Delay		20ms ~ <2160p以外> 99ms ~ <2160p>	※When VD-970 is used Network Transmission and FEC delay is excluded

4K Encoder (VC-970) Specification③

Item		Function		Comment
Monitoring & Control				
Ethernet	I/F	10 / 100Base-T		
	Protocol	HTTP, SNMP		
Contact Control	Format	GND / open		
Physical				
Operating Temperature		0°C ~ 50°C		
Power Supply		AC100V ~ 240V		
Power Consumption		~ 70VA		
Dimensions / Weight		210mm(W) × 400mm(D) × 44mm(H), 3kg		

4K Decoder (VD-970) Specification①

Item		Function	Comment
Output Video Signal			
4K	I/F	4 pairs x 3G-SDI : SMPTE 424M Standard 1 pair x 12G-SDI : SMPTE 2082M Standard ※Option	Level A or B Available for Square Division / 2 Sample Interleave
	Video Format	2160p : 59.94 / 50Hz	
HD / SD	I/F	1 pair x SDI : SMPTE 424M, 292M, 259M Standard	
	Video Format	1080p : 59.94 / 50Hz	
		1080i : 29.97 / 25Hz	
		720p : 59.94 / 50Hz	
		480i / 512i : 29.97 Hz	
576i / 608i : 25Hz			
Output Audio Signal			
Embedded Audio	Sampling Frequency	48kHz	
	The number of channel	Up to 32 channels <2160p> Up to 16 channels <Others>	
Input Synchronization Signal			
Reference		SMPTE 170M, ITU-R BT.709-4	
Input TS Signal			
MPEG-2 TS	I/F	DVB-ASI: ISO / IEC 13818-1, EN 50083-9	
		Ethernet(GbE): 100 / 1000Base-T	
	Transmission Mode	Packet Mode / Burst Mode	
	Packet Length	188 Byte / 204 Byte	
	Total Rate	~180Mbps	Video Rate : ~160Mbps

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Video Decoding			
Decoding Format Profile@Level	H.265 / MPEG-H HEVC	Main 422 10@Level5.1, Main10@Level5.1, Main@Level5.1	
	H.264 / MPEG-4 AVC	High422@Level4.1, High@Level4.1, Main@Level4.1	
	MPEG-2	422P@HL, MP@HL, SP@HL, MP@H14L, SP@H14L 422P@ML, MP@ML, SP@ML	
Chroma Format		4:2:0 / 4:2:2	
Bit depth		8bit / 10bit <Others>, 8bit <MPEG-2>	
ES bitrate		~ 160Mbps <Others>, ~ 120Mbps <MPEG-2>	
GOP Structure		Intra Column Refresh, I-Only, Long GOP <Others> Intra Slice, I-Only, Long GOP <MPEG-2>	
Audio Decoding			
Decoding Format		MPEG-2 AAC-LC, MPEG-4 AAC-LC, MPEG-4 AAC-ELD MPEG-1 Layer2, LPCM(SMPTE302M-2002), Dolby-E pass through	
Channel Mode		1/0, 1/0+1/0, 2/0, 3/1, 5.1, 22.2	
ES bitrate		48kbps ~ 3072kbps	
The number of ES		4ES	
ES Format		ADTS, LATM / LOAS	
Others			
Ancillary		ARIB TR-B22, ARIB TR-B23, ITU-R BT.1366	
FEC		ProMPEG CoP#3	
Encryption		BISS mode-0/1/E	

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