

Digital VTR Format



	Unit	NTSC												HDTV								HDTV	
		HDV																				1080i	720p
		D-1	D-2	D-3	D-5	Digital BETACAM	BETACAM SX	D-7 (DVCPRO)	DVCPRO 50	DVCPRO P	DVCAM	D-9 (Digital S)	MPEG IMX	1 inch Digital	D-6	HDD5	HDCAM	HDCAM SR	DVCPRO HD	DVCPRO HD EX			
Tape width	mm	19.01	19.01	12.65	12.65	12.65	12.65	6.35	6.35	6.35	6.35	12.65	12.65	25.4	19.01	12.65	12.65	12.65	6.35	6.35	6.35		
Tape thickness	μm	12.5	12.5	11.0/14.0	11.0/14.0	14.0	14.0	8.5	8.5	8.5	7.0	14.4	13.5	18.0	11.0	11.0	14.0	11.0	6.5/8.5	6.5/8.5	7.0		
Tape material	—	oxidant	metal	metal	metal	metal	metal	metal	metal	metal	vapor deposition	metal	metal	metal	metal	metal	metal	metal	metal	metal	metal	vapor deposition	
Track pitch	μm	45.0	39.1	20.0	20.0	21.7	32.0	18.0	18.0	18.0	15.0	20.0	21.7	37.3	22.0	20.0	21.7	13.2	18.0	9.0	10.0		
Shortest recording wavelength	μm	0.89	0.85	0.77	0.63	0.69	0.74	0.49	0.49	0.49	0.49	0.59	0.56	0.69	0.81	0.63	0.49	0.29	0.49	0.43	0.49		
Video input signal	—	4:2:2 Component	Component	Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:1:1 Component	4:2:2 Component	4:2:0 Component	4:1:1 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2 Component	4:2:2
Sampling frequency	Video	MHz	13.5	14.3	14.3	13.5	13.5	13.5	13.5	27.0	13.5	13.5	13.5	74.25	74.25	74.25	74.25	74.25	74.25	74.25	74.26	55.69	74.25
	Audio	KHz	48	48	48	48	48	48	48	48	48	48/28	48	48	48	48	48	48	48	48	48	48	
Quantization	Video	bit	8	8	8	10	10	8	8	8	8	8	8	8	8	8/10	8/10	10	8	8	8		
	Audio	bit	16~20	20	16/20	20	20	16	16	16	16	16/12	16	16/24	20	20/24	20	20	24	16	16	16	
Audio channels	—	4	4	4	4	4	4	2	4	4	2/4	4	8/4	8/D+1/A	10	4	8/4	12	8	8	2		
Compression	—	—	—	—	—	Intrafield DCT compression	MPEG2 422P @ML	Intraframe DCT compression	Intraframe DCT compression	Intraframe DCT compression	Intraframe DCT compression	Intraframe DCT compression	MPEG2 422P @ML	—	—	Intrafield DCT compression	Intrafield DCT compression	MPEG-4 studio profile	Intraframe DCT compression	Intraframe DCT compression	MPEG-2 Video (MP @H-14)		
Compression ratio	—	—	—	—	—	1/2	1/10	1/5	1/3.3	1/5	1/5	1/3.3	1/3.3	—	—	1/4	1/7	1/2.7	1/6.7	1/6.7	1/22.4 (60i) 1/18.7 (50i)	1/17.4 (30p) 1/34.9 (60p) 1/14.6 (25p) 1/29.1 (50p)	
Video recording rate	Mbps	173.0	94.0	94.0	250.0	88.0	18.0	25.0	50.0	50.0	25.0	50.0	50.0	958.5	958.5	235.0	140.0	440.0	100.0	100.0	25.0	19	
Tape transfer	mm/s	286.6	131.7	83.9	167.2	96.7	59.6	33.8	67.6	67.6	28.2	57.7	64.5	805.2	497.0	167.2	96.7	117.7	135.3	67.6	18.81	18.81 (SP) 12.56 (LP)	
Relativity	m/s	35.6	27.4	21.4	21.4	22.9	19.1	10.2	10.2	10.2	10.2	14.5	15.3	51.5	46.0	21.4	22.9	22.9	20.4	20.4	10.2		
Drum rotation	rps	150	90	90	90	90	75	150	150	150	150	75	60	120	150	90	90	90	300	300	150		
Drum diameter	mm	75.0	96.4	76.0	76.0	81.4	81.4	21.7	21.7	21.7	21.7	62.0	81.4	134.6	96.5	76.0	81.4	81.4	21.7	21.7	21.7		
Track/Field	units	10	6	6	12	6	10/2 frame	10/1 frame	20/1 frame	20/1 frame	10/1 frame	10/1 frame	8/1 frame	16	40	12	6	12	40/1 frame	40/1 frame	5 (60i) 6 (50i) [track/field]	10 (30p) 5 (60p) 12 (25p) 6 (50p) [track/frame]	
Maximum recording time	min.	94 (L) 34 (M) 6 (S)	208 (L) 94 (M) 32 (S)	185 (L) 94 (M) 50 (S)	124 (L) 63 (M) 23 (S)	124 (L) — 40 (S)	194 (L) — 62 (S)	126 (L) 66 (M) —	126 (LX) 63 (L) 33 (M)	63 (L) 33 (M) —	184 (L) — 40 (S)	124	184 (L) — 60 (S)	64	64 (L) 28 (M) 8 (S)	124 (L) 63 (M) —	124 (L) — 40 (S)	124 (L) — 40 (S)	— 32 (L) 16 (M)	126 (XL) 64 (L) 33 (M)	276 (STD) 63 (SP)	63 (SP) 94.5 (LP)	
Maximum tape length	m	1640 (L) 604 (M) 121 (S)	1653 (L) 751 (M) 260 (S)	935 (L) 481 (M) 254 (S)	1249 (L) 635 (M) 233 (S)	732 (L) — 241 (S)	707 (L) — 231 (S)	259 (L) 751 (M) —	515 (LX) 259 (L) 137 (M)	259 (L) 137 (M) —	315 (L) — 71 (S)	437	725 (L) — 239 (S)	3120	1920 (L) 850 (M) 285 (S)	1249 (L) 635 (M) —	732 (L) — 241 (S)	893 (L) — 293 (S)	263 (L) 137 (M)	515 (XL) 263 (L) 137 (M)	316 (STD) 74 (mini)	74	
Maxell tape lineup	—	—	●	—	●	●	●	●	●	●	—	—	—	—	—	●	●	—	●	●	●		