

All digital tape formats “cheat” in that while you MIGHT capture them to uncompressed from tape, they were not captured uncompressed in the field. Besides color space compression (4:4:4 becomes 4:2:2, 4:2:0, or 4:1:1), JPEG like compression is applied to all digital tape formats to squeeze that large amount of raw video data onto that tiny tape. You’ll need to understand concepts of 8 vs 10 bit, 4:4:4 vs 4:2:2 vs 4:2:0 vs 4:1:1, subsampling vs full raster to understand this.

**VHS** - an analog consumer format that has largely been superseded by DVD today.

**Digital8** - Sony’s 8 mm consumer digital format that is no longer supported.

**DV** - 720x480, 8 bits, 4:1:1, 25 megabits/sec aka 3.6 MB/sec w/audio. 2channel stereo audio uncompressed 16bit 48 KHz, or 4 channels of lesser quality, native FCP editing, 24 supported by some models.

**DVCAM/DVCPRO** - same picture quality as DV, but with “real” timecode (24hr clock), native FCP editing, 24p on some models.

**DVCPRO50** - like DVCPRO, but with twice the bandwidth - 720x 480, 4:2:0, 50 megabits/sec, about 7 MB/sec, native FCP editing, 24p on some models.

**IMX** - MPEG-2 compression, but all I-frames (keyframes). 25 megabit, native FCP editing (in v5), 24p SD on some models.

**Digibeta aka Digital Betacam** - 2:1 compressed, 720x486 (note slight difference), 4:2:2, 8 or 10 bits/channel.

**BetaSP** - Inefficient analog system.

**HDV** - three formats:

720p30 at 1280x720, 4:2:0, 8 bits/channel, 19 megabits.

1080i60 at 1440x1080, 4:2:0, 8 bits/channel, 25 megabits.

ProHD - 720p24/25/30/60 (60 off of camera but not to tape), 1080i.

**P2** - lots of options: 720p, 1080p, 1080i, variable framerate from 4 to 60 @ 720p.

**Pro HD** - native 720p24.

**DVCPROHD** - two supported versions on tape:

720p - 8 bit, 960x720, 4:2:2.

1080i - 8 bit, 1280x1080, 4:2:2.

**HDCAM** - 1080i handled at 1440x 1080, 3:1:1, 8 bit.

**D-5** - 720p, 1080p, 1080i, 24p, 8 or 10 bit, 1920x1080 or 1280x720. First deck that does 10 bit, full raster (not horizontal scaling down.)

**HDCAM SR 4:2:2** - 8 or 10 bit, 720p, 1080p, 1080i, 24p, full raster (1920x1080 and 1280x720 internally), 4:2:2. Can do 1080p60 but only with SRW-1 deck. Also only on that deck, stereoscopic imaging.

**HDCAM SR 4:4:4** - with an extra board, can do 4:4:4 @ 440 megabits. Only on SRW-1, can do double data rate - 880 megabit. SRW-1 has features so different, I'm almost inclined to call it a different format than HDCAM SR, or at least a superset of HDCAM SR, since it will do things the SRW-5000 and SRW-5500 decks won't.

**HD uncompressed to disk** - full raster, 8 or 10 bit, lossless.