



LR4k live action animation

http://en.wikipedia.org/wiki/Digital_cinematography

WHAT IS LR4k?

Multi-format, variable resolution digital capture system that records 300 dpi qualities for special digital cinematography applications, visual effects and medium format print output. Hardware and software applications allow for flexible motion control and customization features.

RESOLUTION and OUTPUT

Digital film standard	Resolution	Display aspect ratio	Pixels
Academy 4K	3656 × 2664	1.37:1	9,739,584
Digital cinema 4K	4096 × 1714	2.39:1	7,020,544
	3996 × 2160	1.85:1	8,631,360
Academy 2K	1828 × 1332	1.37:1	2,434,896
Digital Cinema 2K	2048 × 858	2.39:1	1,757,184
	1998 × 1080	1.85:1	2,157,840

LR4K digital output includes variable resolution settings from 4k @ (3500 x 2330) lines to 2k (1728 x 1152 lines) @ 300dpi. Media is delivered in uncompressed image sequences on hard disc or large storage USB device. This is a brand new method and look. It will be compared to film quality without the cost.

35mm & Super 16mm film works as the established standard that all formats try to emulate. The quality originates between 2k and 4k. Most conversions to broadcast output to: HD 2k @ (1998 x 1080) or SD 1k @ (720 x 540) @ 72 dpi. Media is output to analog and/or compressed digital tape format. This remains the current choice for large format theatrical presentation and high dollar commercial production.

HDcam has 2k digital output capabilities (1920 x 1080 lines) @ 72 dpi. It has become the next generation of broadcast formats, but remains expensive for most applications. Media is output to compressed digital tape format.

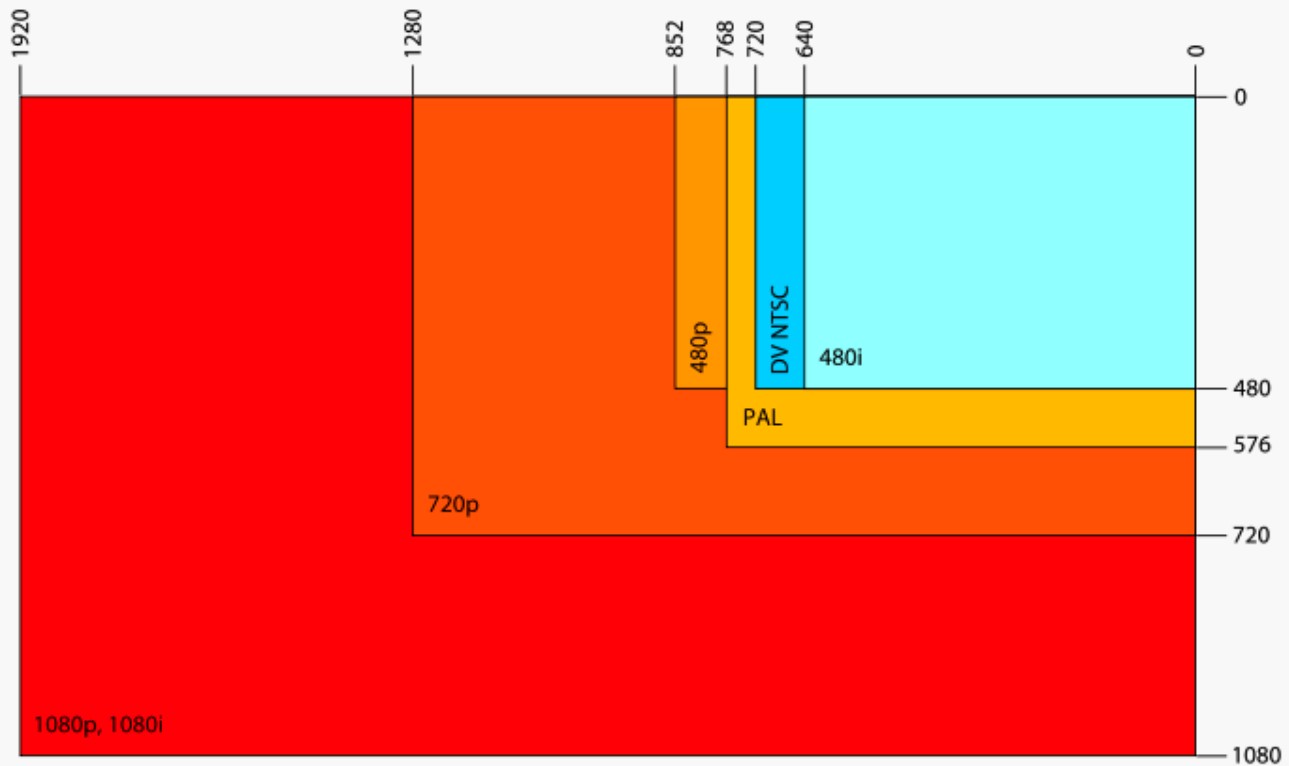
SD VIDEO has been the format for years and continues to attract small budget commercials and Indy style shows. This group has various digital output formats around or under the 1k-**resolution** range. Media is output to analog or compressed digital tape format.

Digital video resolutions

Designation	Usage examples	Definition (lines)	Rate (Hz)	
			Interlaced (fields)	Progressive (frames)
Low; MP@LL	LDTV, VCD	240; 288 (SIF)		24, 30; 25
Standard; MP@ML	SDTV, SVCD, DVD, DV	480 (NTSC, PAL-M);	60;	24, 30;
		576 (PAL, SECAM)	50	25
Enhanced	EDTV	480; 576		60; 50
High; MP@HL	HDTV, HD DVD, BD, HDV	720		24, 25, 30, 50, 60
		1080	50, 60	24, 25, 30

Common resolutions (by pixel count)

1:1 PAR



Digital TV standard	Resolution	Display aspect ratio	Pixels
Video CD	352 × 240 (NTSC)	4:3 (non-square pixels)	84,480
	352 × 288 (PAL)		101,376
China Video Disc	352 × 480 (NTSC)	4:3 (non-square pixels)	168,960
	352 × 576 (PAL)		202,725
SVCD	480 × 480 (NTSC)	4:3 (non-square pixels)	230,400
	480 × 576 (PAL)		276,480
EDTV 480p	640 × 480	4:3 or 16:9	307,200
	704 × 480		337,920
	852 × 480		408,960
DVD	704 × 480 (NTSC)	4:3 or 16:9 (non-square pixels)	337,920
	704 × 576 (PAL)		405,504
D1	720 × 480 (NTSC)	4:3 or 16:9 (non-square pixels)	345,600
	720 × 576 (PAL)		414,720
D1 (NTSC with square pixels)	720 × 540	4:3	388,800
HDTV 720p	1280 × 720	16:9	921,600
HDTV 1080p, 1080i	1920 × 1080	16:9	2,073,600

FRAME RATES (speed of the motion)

LR4K shoots multiple frames, progressively. Motion control is performed in post. This process is similar to when film is shot under-cranked (3fps – 8fps) and transferred to tape at normal speed (24 fps). The raw footage would need further processing during transfer or post production. This 4k high-resolution data allows for amazing detail reproduction and postproduction motion control flexibility (without motion blurring). LR has tested speeds from 1 fps (time-lapse) to 40 fps (slightly over-cranked).

FILM shoots 5 fps to 75 fps (offered on most commercial camera systems), with a standard of 24fps. There is no substitute to the flexibility of variable speed film cameras. Film costs have made this format less utilized.

HD VIDEO shoots 23.97 fps, 29.97fps, 48fps and 60fps. Important to know and prepare separate tapes for the various recording speeds.

SD VIDEO shoots 29.97fps and 30fps only.

ASA (sensitivity to light and depth of field)

LR4k – Flexible interchangeable lens options with variable in-camera sensitivity controls (100 to 1600 ASA)

FILM – Expensive interchangeable lens options with variable speed film stocks from 100 to 500 ASA (common commercial stocks)

HD VIDEO – Expensive interchangeable lens options with fixed in camera ASA @ 320 (can increase with DSP)

SD VIDEO – Fixed zoom lenses with fixed in camera ASA @ 250 (can increase with DSP)

COSTS TO OPERATE

These costs compare full camera equipment packages, three hours of footage (raw stock purchase thru final transfer) and camera support crew.

LR4k @ \$5000/day

Includes: modified SLR camera system with remote 22' mobile processing unit; 3 ton grip and lighting package, and 3 person crew (DP/operator, Technician, Grip). 4k MEDIA is included in the package - includes 500 gig hard drive (10 hours of storage). Hourly rates available from portal to portal. Immediate editorial turnaround opportunities.

35mm @ \$32,000/day

Includes: Moviemax Compact camera package @ \$4000/day; DP/operator @ \$1500/day; A/C @ \$475/day; 16 rolls of 35mm stock @ \$630 per 1000' (11 min @ 24fps); 16,000' process @ \$0.18/ft; 16,000' dailies @ \$.45/ft; final transfer 6 hrs @ \$850/hr (plus tape stock). Full day rates are favored with this scenario.

Super 16mm @ \$16,200/day

Includes: SRII Super 16mm package @ \$1500/day; DP/operator @ \$1000/day; A/C @ \$475/day; 16 rolls of 16mm stock @ \$150 per 400' (11 min @ 24fps); 6,480' process @ \$0.18/ft; 6,480' dailies @ \$.45/ft; final transfer 6 hrs @ \$850/hr.

HD VIDEO costs \$3100/day

Includes: CineAlta HDcam package @ \$1200/day; DP/operator @ \$750/day; A/C @ \$300/day; 10 rolls of HDcam stock @ \$100 per 64 minutes.

LR4k POST PREP

This format is exclusive to Laszlo Rain. System configurations, format conversions and custom processes have been employed to achieve desired motion speeds and finished looks. There are two intermediate steps required to prepare the format for post-production:

- 1) Convert still files to image sequences. LR has adapted custom programs that convert every image to a sequence structure for further manipulation by resolution-independent animation, compositing, or editorial applications. The cost to convert 4k images to animation sequences is \$100 per gig.
- 2) Prepare image sequences for proper size and format. This is the final pan-and-scan stage where the correct aspect ratios and formats are output for broadcast or print applications. HD, Digital Betacam, Beta SP, and DVcam tape output is available. LR also offers Firewire and USB outputs as well. The cost to prepare "image sequence" media for output is \$150/hr.

LR4k BENEFITS

- 4k image quality for low cost applications
- Flexible output options and postproduction work flows
- Wide exposure ranges, from 100 to 1600 ASA
- Variable shutter rates (from seconds to fractions)
- Compact set-up times with a fraction of the traditional crew support necessary
- Immediate editorial turnaround opportunities
- Combine broadcast & print shoots with efficiencies that share talent, crews, locations and efforts
- Approve broadcast footage & print media – on location
- Output print media directly from broadcast footage
- Buyout print images with royalty free access – and no contract renewals

PRINT PRICES – BUYOUT ONLY (usually not included in broadcast projects)

Leave the stills guy at home. Or better yet, invite him, too. It's a whole new deal.

\$250/image for Local print or outdoor media usage.

\$500/image for Regional print or outdoor media usage.

\$1000/image for National print or outdoor media usage.

NOTE: PRINT PRICES DO NOT INCLUDE PREP, FTP, or OUTPUT FEES. All orders are subject to prep charges @ \$100/hr to properly prepare print media.