

TECHNICAL SPECIFICATIONS



HELIUM



SENSOR TYPE

HELIUM 35.4 Megapixel CMOS

EFFECTIVE PIXELS

8192 × 4320

SENSOR SIZE

29.90 mm × 15.77 mm (Diagonal: 33.80 mm)

DYNAMIC RANGE

16.5+ stops

MAX DATA RATES

Up to 300 MB/s using RED MINI-MAG (480GB & 960GB)

Up to 225 MB/s using RED MINI-MAG (120GB & 240GB)

MAX FRAME RATES

60 fps at 8K Full Format (8192 × 4320), 75 fps at 8K 2.4:1 (8192 × 3456)

60 fps at 7K Full Format (7168 × 3780), 75 fps at 7K 2.4:1 (7168 × 3024)

75 fps at 6K Full Format (6144 × 3240), 100 fps at 6K 2.4:1 (6144 × 2592)

96 fps at 5K Full Format (5120 × 2700), 120 fps at 5K 2.4:1 (5120 × 2160)

120 fps at 4K Full Format (4096 × 2160), 150 fps at 4K 2.4:1 (4096 × 1728)

150 fps at 3K Full Format (3072 × 1620), 200 fps at 3K 2.4:1 (3072 × 1296)

240 fps at 2K Full Format (2048 × 1080), 300 fps at 2K 2.4:1 (2048 × 864)

PLAYBACK FRAME RATES (PROJECT TIMEBASE)

23.98, 24, 25, 29.97, 47.95, 48, 50, 59.94, 60 fps, all resolutions

REDCODE SETTINGS RANGE FROM 2:1 UP TO 22:1

5:1 REDCODE for 8K Full Format (8192 × 4320) at 24 fps

12:1 REDCODE for 8K Full Format (8192 × 4320) at 60 fps

2:1 REDCODE for 4K Full Format (4096 × 2160) at 24 fps

3:1 REDCODE for 4K Full Format (4096 × 2160) at 60 fps

REDCODE RAW ACQUISITION FORMATS

8K Full Format (8192 × 4320), 2:1, 2.4:1, 16:9, 14:9, 8:9, 3:2, 6:5, 4:1, 8:1, and Ana 2x, 1.3x, 1.25x

7K Full Format (7168 × 3780), 2:1, 2.4:1, 16:9, 8:9, 6:5, 4:1, 8:1, and Ana 2x, 1.3x

6K Full Format (6144 × 3240), 2:1, 2.4:1, 16:9, 8:9, 3:2, 4:3, 6:5, 4:1, 8:1, and Ana 2x, 1.3x, 1.25x

5K Full Format (5120 × 2700), 2:1, 2.4:1, 16:9, 8:9, 6:5, 4:1, 8:1, and Ana 2x, 1.3x

4K Full Format (4096 × 2160), 2:1, 2.4:1, 16:9, 8:9, 3:2, 4:3, 5:4, 6:5, 4:1, 8:1, 1:1, and Ana 2x, 1.3x

3K Full Format (3072 × 1620), 2:1, 2.4:1, 16:9, 3:2, 4:3, 5:4, 6:5, 4:1, 8:1, and Ana 2x, 1.3x

2K Full Format (2048 × 1080), 2:1, 2.4:1, 16:9, 3:2, 4:3, 5:4, 6:5, 4:1, 8:1, and Ana 2x, 1.3x

APPLE PRORES

ProRes 422 HQ, ProRes 422 and ProRes 422 LT at 4K (4096 × 2160) up to 30 fps

ProRes 4444 XQ and ProRes 4444 at 2K (2048 × 1080) up to 120 fps

ProRes 422 HQ, ProRes 422 and ProRes 422 LT at 2K (2048 × 1080) up to 120 fps



AVID CODECS	DNxHR HQX at 4K (4096 × 2160) 12-bit up to 30 fps DNxHR HQ and SQ at 4K (4096 × 2160) 8-bit up to 30 fps DNxHR 444 at 2K (2048 × 1080) 12-bit up to 120 fps DNxHD 444 and HQX (1920 × 1080) 10-bit up to 120 fps DNxHD HQ and SQ (1920 × 1080) 8-bit up to 120 fps
CONSTRUCTION	Aluminum Alloy
WEIGHT	3.35 lbs (BRAIN with Integrated Media Bay)
DC IN POWER INPUT	11.5 V DC to 17 V DC (requires an expander with DC-IN)
OPERATING TEMPERATURE	0°C to 40°C (32°F to 104°F)
STORAGE TEMPERATURE	-20°C to 50°C (-4°F to 122°F)
RELATIVE HUMIDITY	0% to 85% non-condensing
COLOR MANAGEMENT	Supports 33×33×33, 32×32×32, 26×26×26, and 17×17×17 3D LUTs Variable number of 3D LUT outputs with DSMC2 expander module User programmable shaper 1D LUTs Tetrahedral interpolation, 16-bit processing
AUDIO	Integrated dual channel digital stereo microphones, uncompressed, 24-bit 48 kHz Optional 2 additional channels with DSMC2 expander module, uncompressed, 24-bit 48 kHz
REMOTE CONTROL	Integrated R.C.P. WiFi antenna Ethernet, RS232, and GPI Trigger with DSMC2 expander module
MONITOR OUTPUTS	3G-SDI (HD-SDI) and HDMI with DSMC2 expander module 1080p RGB or 4:2:2, 720p RGB or 4:2:2 480p RGB or 4:2:2 (HDMI only) SMPTE Timecode, HANC Metadata, 24-bit 48 kHz Audio
MONITOR OPTIONS	DSMC2® Touch 7.0" Ultra-Brite LCD (Direct Mount), DSMC2® RED Touch 4.7" LCD, DSMC2® RED Touch 7.0" LCD and DSMC2® RED EVF (OLED) with cable-free connection. RED Touch 9.0" LCD, RED Touch 7.0" LCD, RED Touch 5.0" LCD, RED PRO 7" LCD, DSMC2 Touch 7.0" Ultra-Brite LCD, BOMB EVF (OLED) and BOMB EVF (LGOS) compatible with DSMC2 LCD/EVF Adaptor A or DSMC2 LCD/EVF Adaptor D, and LCD/EVF cable.
REDCINE-X PRO DELIVERY FORMATS	4K: DPX, TIFF, OpenEXR (.RED via REncode plugin) 2K: DPX, TIFF, OpenEXR (.RED via REncode plugin) 1080p RGB 4:2:2, 720p 4:2:2 : QuickTime, JPEG, AVID AAF, MXF 1080p 4:2:0, 720p 4:2:0 : H.264, .MP4
VIDEO EDITING SOFTWARE COMPATIBILITY	Adobe Premiere Pro, AVID Media Composer, DaVinci Resolve, Edius Pro, Final Cut Pro, Vegas Pro

* Tech specs reflect both current and projected information. Everything is subject to change.