







	RED RAVEN (2016)	SONY PXW-FS5 (2015)	BMUM4.6K (2016)	CANON C100 MARK II (2014)	SONY A7S II (2015)	PANASONIC LUMIX GH4 (2014)
						
PRICE	\$6950.00 at RED (BRAIN only)	\$5599.00 at B&H (body only)	\$4995.00 at B&H (body only)	\$3999.00 at B&H (body only)	\$2998.00 at B&H (body only)	\$1297.99 at B&H (body only)
BACKGROUND	In 2007, RED's first camera, the Red ONE, kicked off the 4K and RAW recording craze. Granted, it was costly, but not as costly as shooting on film in many situations. RED continues to expand its modular, proprietary designs for Hollywood and indie filmmakers alike, most recently with 2016's compact RAVEN, competing in the sub-\$10K market.	Sony's veteran engineers recently designed the FS5, a lightweight, hand-held camera that slots in between 2012's FS700 and 2014's pricier FS7. Its modest size belies its robust feature set, which includes outboard 4K/2K RAW recording.	Blackmagic Design has been a disruptive force in the industry ever since it announced its first Cinema Camera in 2012, putting Hollywood-grade images in the hands of indie filmmakers at an astonishingly affordable price. Their latest release, the URSA Mini 4.6K, is a handheld camera designed with versatility in mind.	2012's C300 kicked off Canon's Cinema EOS range. Trusted especially by event videographers and documentarians, it's a versatile camera with excellent ergonomics. The C300's little brother, the C100 Mark II, inherits its sibling's thoughtful design and offers solid functionality, although 4K functionality is notably absent. With the 5D Mark IV still on the horizon, the C100 Mark II is (arguably) Canon's most attractive offering for budget-conscious indie filmmakers.	Sony continues to evolve its cameras' video capabilities at an impressive pace, with 2015's low-light king - the a7S II - improving upon its predecessor, especially with the inclusion of internal 4K.	Panasonic's DSLM powerhouse, the GH4, combines a small form factor with partial modularity. It packs a powerful punch for its price, featuring internal 4K and a plethora of recording options. Firmware updates have kept the camera competitive two years after launch, introducing an Anamorphic (4:3) Mode and V-Log L capability, among other advancements.
WEIGHT	3.5 lbs/1.6 kg (BRAIN w/ Integrated Media Bay & EF Mount)	1.83 lbs/0.83 kg (body only)	5 lbs/2.3 kg (body only)	2.2 lbs/1.0 kg (body only)	1.29 lbs/0.58 kg (body only)	1.06 lbs/0.48 kg (body only)
LENS MOUNT	EF Mount	E Mount	PL, EF models available	EF Mount	E Mount	MFT Mount
SENSOR TYPE	9.9 MP "Red Dragon" CMOS	11.6 MP Super 35mm CMOS	Super 35mm CMOS	8.3 MP Super 35mm CMOS	12.2 MP 35mm Full Frame CMOS	16.05 MP Digital Live MOS sensor
FORMATS & RESOLUTIONS	REDCODE RAW (.R3D) <ul style="list-style-type: none"> 4.5K - FF (4608x2160); 2.4:1 4K - FF (4096x2160); 2:1; 2.4:1; UHD 16:9 3K - FF (3072x1620); 2:1; 2.4:1; 16:9; 3:2 2K - FF (2048x1080); 2:1; 2.4:1; 16:9; 3:2 See details, p75 PRORES (.MOV) <ul style="list-style-type: none"> 2K (422, 422 HQ, 422 LT) - DCI (2048x1080) DNxHD/HR LB (.MXF) <ul style="list-style-type: none"> FHD - 1920x1080 	XAVC-L (.MXF) <ul style="list-style-type: none"> 4K - UHD (3840x2160) FHD - 1920x1080 XAVC Proxy (.MP4) <ul style="list-style-type: none"> HD - 1280x720 VGA - 640x360 AVCHD (.MTS) <ul style="list-style-type: none"> HD - 1280x720 VGA - 640x360 	CINEMADNG RAW <ul style="list-style-type: none"> 4.6K - 4608 x 2592 4K - 16:9 (4096 x 2304); 2.4:1; DCI 3K - Anamorphic (3072 x 2560) 2K - 16:9 (2048 x 1152); DCI PRORES (.MOV) <ul style="list-style-type: none"> 4K (422, 422HQ, 422LT, 444, 444XQ, Proxy) - UHD (3840x2160) FHD (422, 422HQ, 422LT, 444, 444XQ, Proxy) - 1920x1080 	MPEG-4 AVC/H.264 (.MP4) <ul style="list-style-type: none"> FHD - 1920x1080 HD - 1280x720 VGA - 640x360 AVCHD (.MTS) <ul style="list-style-type: none"> FHD - 1920x1080 HDV - 1440x1080 	XAVC-S (.MP4) <ul style="list-style-type: none"> 4K - UHD (3840x2160) FHD - 1920x1080 MPEG-4 AVC/H264 (.MP4) <ul style="list-style-type: none"> FHD - 1920x1080 HD - 1280x720 AVCHD (.MTS) <ul style="list-style-type: none"> FHD - 1920x1080 	MPEG-4 AVC/H264 (.MOV) <ul style="list-style-type: none"> 4K - DCI (4096x2160); UHD; Anamorphic (4:3) Mode FHD - 1920x1080 MPEG-4 AVC/H264 (.MP4) <ul style="list-style-type: none"> 4K - DCI (4096x2160); UHD; 16:9, 3:2, 4:3, 1:1 in 4K Photo Mode; Anamorphic (4:3) Mode FHD - 1920x1080 HD - 1280x720 VGA - 640x480 AVCHD (.MTS) <ul style="list-style-type: none"> FHD - 1920x1080
IMAGE PROCESSING	REDCODE (.R3D) RAW <ul style="list-style-type: none"> Compressed using proprietary wavelet compression w/ 16 bit PRORES (.MOV) <ul style="list-style-type: none"> 10 bit 4:2:2 DNxHD/HR LB (.MXF) <ul style="list-style-type: none"> 8 bit 4:2:2 	XAVC-L (.MXF) <ul style="list-style-type: none"> 4K - 8 bit 4:2:0 FHD - 10 bit 4:2:2 AVCHD (.MTS) <ul style="list-style-type: none"> 8 bit 4:2:0 	CINEMADNG RAW <ul style="list-style-type: none"> Uncompressed or lossless 3:1/4:1 compressed; 12 bit PRORES (.MOV) <ul style="list-style-type: none"> 10 bit 4:4:4 	8 bit 4:2:0	8 bit 4:2:0	8 bit 4:2:0
FRAMERATES	Progressive only <ul style="list-style-type: none"> 4.5K FF, 2.4:1 - Up to 120 4K FF - Up to 120 4K 2.4:1 - Up to 150 3K FF - Up to 150 3K 2.4:1 - Up to 200 2K FF - Up to 240 2K 2.4:1 - Up to 300 FHD - Up to 60 See details, p99 	PROGRESSIVE <ul style="list-style-type: none"> 4K - Up to 60 (burst mode) FHD - Up to 240 (burst mode), 960 (reduced-resolution) HD - Up to 59.94 INTERLACED <ul style="list-style-type: none"> AVCHD's HD - Up to 59.94 	Progressive only <ul style="list-style-type: none"> 4.6K, 4K, 3K - Up to 60 2K - Up to 160 (windowed) FHD - Up to 160 (windowed) 	PROGRESSIVE <ul style="list-style-type: none"> FHD - Up to 59.94 HD - Up to 29.97 VGA - Up to 29.97 INTERLACED <ul style="list-style-type: none"> AVCHD's FHD - Up to 59.94 AVCHD's HDV - Up to 59.94 	XAVC-S (.MP4) <ul style="list-style-type: none"> 4K - Up to 29.97 FHD - Up to 120 MPEG-4 AVC/H264 (.MP4) <ul style="list-style-type: none"> FHD - 25, 29.97, 60 HD - 25, 29.97 AVCHD (.MTS) <ul style="list-style-type: none"> FHD - Up to 59.94 (progressive & interlaced) 	PROGRESSIVE <ul style="list-style-type: none"> 4K - Up to 29.97 4K Photo Mode - 30 or 25 Anamorphic (4:3) Mode - 23.98, 24, 25, or 29.97 FHD - Up to 59.94 HD - 25, 29.97 VGA - 25, 29.97 VFR up to 96 INTERLACED <ul style="list-style-type: none"> AVCHD's FHD - 50, 59.94
RECORDING MEDIA	RED MINI-MAG SSDs - 120GB, 240GB, 512GB, 1TB	<ul style="list-style-type: none"> 1 x MS/SD 1 x SD Accepts Memory Stick PRO Duo, Memory Stick PRO-HG Duo, SD, SDHC, SDXC 	2x CFAST 2.0s	<ul style="list-style-type: none"> 2x SD Accepts SD, SDHC, SDXC 	<ul style="list-style-type: none"> 1x MS/SD Accepts Memory Stick PRO Duo, Memory Stick PRO-HG Duo, Memory Stick Micro, SD, SDHC, SDXC, MicroSD, MicroSDHC, MicroSDXC 	<ul style="list-style-type: none"> 1x SD Accepts SD, SDHC, SDXC
SHUTTER	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling
ISO	250-12800 in steps of 1/3 stops; base is 800	1000-32000 in steps of 1/3 stops; base is 3200	200, 400, 800, 1600; base is 800	320-102400 in steps of 1/3 stops; base is 850	100-102400 (Extended Mode: 50-409600); base is 1600	200-25600 (Extended ISO: 100-25600) in steps of 1/3 stops; base is 800
DYNAMIC RANGE	16.5+ stops	14 stops	15 stops	12 stops	14 stops	12 stops via V-Log upgrade
WHITE BALANCE	Automatic or manual white balance for 1700-10000K; default is 5600. Presets for 2800 (incandescent), 3200 (tungsten), 4500 (fluorescent), 5500 (flash), 5600 (daylight), 7500 (cloudy), 9000 (shade)	Automatic or manual white balance for 2300-15000K; default is 6500. Presets for outdoor & indoor	Manual white balance for 2800-8000K w/ 18 increments	Automatic or manual white balance for 2000-15000K; default is 5500. Adjustable presets for 3000 (tungsten), 5500 (daylight)	Automatic or manual white balance for 2500-9900K; Presets for daylight, shade, cloudy, incandescent, fluorescent (warm white/cool white/day white/daylight), flash, underwater	Automatic or manual white balance for 2500-10000K. Presets for daylight, cloudy, shade, incandescent, flash
AUDIO	<ul style="list-style-type: none"> Integrated dual channel digital stereo microphones, uncompressed, 24 bit 48 kHz Optional 2 additional channels via DSMC2 expander module, uncompressed, 24 bit 48 kHz 	<ul style="list-style-type: none"> 1x built-in microphone for stereo recording 2x XLR switchable between mic & line levels. Phantom power support 1x 3.5mm stereo headphone jack XAVC-L (.MXF) <ul style="list-style-type: none"> LPCM 2 ch 24 bit 48kHz AVCHD (.MTS) <ul style="list-style-type: none"> LPCM 2 ch 16 bit 48kHz Dolby Digital 2 ch 16 bit 48kHz 	<ul style="list-style-type: none"> LPCM 2 ch 24 bit 48kHz 2x built-in cardioid microphones for stereo recording 2x XLR switchable between mic & line levels. Phantom power support 1x 3.5mm stereo headphone jack 	<ul style="list-style-type: none"> 1x 3.5mm stereo mini-jack for external microphone 1x built-in monaural microphone; 1x stereo microphone in handle unit 2x XLR switchable between mic & line levels. Phantom power support 1x 3.5mm stereo headphone jack MPEG-4 AVC/H.264 (.MP4) <ul style="list-style-type: none"> AAC-LC 2 ch 16 bit 48 kHz AVCHD (.MTS) <ul style="list-style-type: none"> LPCM 2 ch 16 bit 48 kHz at 24-28 Mbps; all other modes Dolby Digital 2 ch 16 bit 48kHz 	<ul style="list-style-type: none"> 1x 3.5mm stereo/mono mini-jack for external microphone 1x built-in monaural microphone 1x XLR switchable between mic & line level, via XLR-K2M XLR Adapter Kit 1x 3.5mm stereo headphone jack XAVC-S (.MP4) <ul style="list-style-type: none"> LPCM 2 ch 48kHz 16 bit MPEG-4 AVC/H264 (.MP4) <ul style="list-style-type: none"> AAC-LC 2 ch 16 bit 48 kHz AVCHD (.MTS) <ul style="list-style-type: none"> Dolby Digital 2 ch 16 bit 48kHz 	<ul style="list-style-type: none"> 1x 3.5mm stereo mini-jack for external microphone 1x built-in stereo microphone 2x XLR switchable between mic & line level w/ Phantom power support, via DMW-YAGH Interface Unit 1x 3.5mm stereo headphone jack MPEG-4 AVC/H264 (.MOV) <ul style="list-style-type: none"> LPCM 2 ch 48kHz 16 bit MPEG-4 AVC/H264 (.MP4) <ul style="list-style-type: none"> LPCM 2 ch 48kHz 16 bit AVCHD (.MTS) <ul style="list-style-type: none"> Dolby Digital 2 ch 16 bit 48kHz
OUTPUT	<ul style="list-style-type: none"> 1x 3G-SDI & 1x HDMI, via DSMC2 expander module 1080p RGB or 4:2:2, 720p RGB or 4:2:2, 480p RGB (HDMI only) 24 bit 48 kHz audio 	<ul style="list-style-type: none"> 1x 3G-SDI, 1x HDMI 4K RAW DCI (4096x2160) up to 59.94/120 fps (burst mode) & 2K RAW up to 240 fps, outboard recording via CBKZ-FS5RIF software license and compatible external recorder Up to 4K UHD 8 bit 4:2:2, outboard recording via HDMI 24 bit 48 kHz audio 	<ul style="list-style-type: none"> 1x 12G-SDI, 1x 3G-SDI Up to 2160p60 10-bit 4:2:2 24 bit 48 kHz audio 	<ul style="list-style-type: none"> 1x HDMI Uncompressed 8 bit 4:2:2, outboard recording via HDMI 16 bit 48 kHz audio 	<ul style="list-style-type: none"> 1x Micro-HDMI 4K UHD & FHD 8 bit 4:2:2 up to 60 fps, outboard recording via Micro-HDMI 16 bit 48 kHz audio 	<ul style="list-style-type: none"> 1x Micro-HDMI 2x 3G-SDI & 2x HD-SDI, via DMW-YAGH Interface Unit 4K & FHD at 8 or 10 bit 4:2:2, outboard recording via Micro-HDMI 16 bit 48 kHz audio