

## Panasonic LUMIX S9 Specification

### [Panasonic LUMIX S9](#)

TYPE	Type	Digital Single Lens Mirrorless camera			
	Lens mount	L-Mount			
IMAGE SENSOR	Type	35mm full-frame (35.6mm x 23.8mm) CMOS sensor			
	Camera effective pixels / Total pixels	Approx. 24.20 megapixels / Approx. 25.30 megapixels			
	AR (Anti Reflection) coating	Yes			
	Aspect ratio / Color filter	3:2 / Primary color filter			
	Dust reduction system	Image sensor shift type			
LATITUDE	14+ stops (V-Log)				
STILL IMAGE	Recording file format	JPEG (DCF, Exif 3.0), RAW			
	Aspect ratio	4:3 / 3:2 / 16:9 / 1:1 / 65:24 / 2:1			
	File size (Pixels)	When using full-frame lenses	3:2	6000x4000(L) / 4272x2848(M) / 3024x2016(S) / 1920x1280(XS) / 12000x8000(XL)* / 8496x5664(LL)* *High Resolution mode.	
			4:3	5328x4000(L) / 3792x2848(M) / 2688x2016(S) / 1712x1280(XS) / 10656x8000(XL)* / 7552x5664(LL)* *High Resolution mode.	
			16:9	6000x3368(L) / 4272x2400(M) / 3024x1704(S) / 1920x1080(XS) / 12000x6736(XL)* / 8496x4784(LL)* *High Resolution mode.	
			1:1	4000x4000(L) / 2848x2848(M) / 2016x2016(S) / 1280x1280(XS) / 8000x8000(XL)* / 5664x5664(LL)* *High Resolution mode.	
			65:24	6000x2208(L)	
			2:1	6000x3000(L)	
	When using APS-C lenses	3:2	3984x2656(L) / 2880x1920(M) / 2064x1376(S) / 1920x1280(XS)		
		4:3	3536x2656(L) / 2560x1920(M) / 1840x1376(S) / 1712x1280(XS)		
		16:9	3984x2240(L) / 2880x1624(M) / 2064x1160(S) / 1920x1080(XS)		
1:1		2656x2656(L) / 1920x1920(M) / 1376x1376(S) / 1280x1280(XS)			
Image quality	RAW / RAW+Fine / RAW+Standard / Fine / Standard (High Resolution mode: Combined / RAW / RAW+Fine / Fine)				
Color space	sRGB, AdobeRGB				
MOTION PICTURE	Recording file format	MOV: H.264/MPEG-4 AVC, H.265/HEVC MP4: H.264/MPEG-4 AVC, H.265/HEVC MP4(Lite): H.265/HEVC			

Audio format			MOV: LPCM (2ch 48kHz/24-bit, 96kHz/24-bit*) MP4: AAC (2ch 48kHz/16-bit) MP4(Lite): AAC (2ch 48kHz/16-bit) *When attaching $\Phi$ 3.5mm microphone.	
System frequency			59.94Hz / 50.00Hz / 24.00Hz	
Image area of video			Full / APS-C / PIXEL/PIXEL	
MOV (*1)  *HLG is selecta ble.	59.94 Hz	FULL	[6K] 5952x3968 (3:2)	29.97p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[6K] 5952x3136 (17:9)	29.97p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[5.9K] 5888x3312 (16:9)	29.97p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[C4K] 4096x2160	29.97p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 29.97p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 23.98p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[4K] 3840x2160	29.97p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 29.97p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 23.98p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[FHD] 1920x1080	119.88p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 119.88p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 59.94p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 59.94p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 47.95p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 47.95p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 29.97p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 29.97p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p, 100Mbps (4:2:2 10-bit



				LongGOP) (H.264/MPEG-4 AVC, LPCM) 23.98p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
		APS-C / PIXEL/PIXEL	[C4K] 4096x2160	59.94p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 59.94p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 47.95p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 47.95p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 29.97p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 29.97p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 23.98p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[4K] 3840x2160	59.94p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 59.94p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 47.95p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 47.95p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 29.97p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 29.97p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 23.98p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[3.3K] 3328x2496 (4:3)	47.95p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 47.95p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 29.97p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)

					<p>29.97p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p> <p>23.98p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)</p> <p>23.98p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p>
				[FHD] 1920x1080	<p>119.88p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)*</p> <p>119.88p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)*</p> <p>59.94p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)</p> <p>59.94p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p> <p>47.95p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)</p> <p>47.95p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p> <p>29.97p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)</p> <p>29.97p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p> <p>23.98p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)</p> <p>23.98p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p> <p>*When Image Area of Video is set to APS-C.</p>
		50.00 Hz	FULL	[6K] 5952x3968 (3:2)	25.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[6K] 5952x3136 (17:9)	25.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[5.9K] 5888x3312 (16:9)	25.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[C4K] 4096x2160	<p>25.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)</p> <p>25.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p>
				[4K] 3840x2160	<p>25.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)</p> <p>25.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p>
				[FHD] 1920x1080	<p>100.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)</p> <p>100.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p> <p>50.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC,</p>

				<p>LPCM) 50.00p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 25.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 25.00p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p>
		APS-C / PIXEL/PIXEL	[C4K] 4096x2160	<p>50.00p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 50.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 25.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 25.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p>
			[4K] 3840x2160	<p>50.00p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 50.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 25.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 25.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p>
			[3.3K] 3328x2496 (4:3)	<p>50.00p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 50.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 25.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 25.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)</p>
			[FHD] 1920x1080	<p>100.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM)* 100.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)* 50.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 50.00p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 25.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 25.00p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) *When Image Area of Video is set to APS-C.</p>
	24.00 Hz	FULL	[6K] 5952x3968 (3:2)	24.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)

				[6K] 5952x3136 (17:9)	24.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[5.9K] 5888x3312 (16:9)	24.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[C4K] 4096x2160	24.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 24.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[4K] 3840x2160	24.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 24.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[FHD] 1920x1080	48.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 48.00p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 24.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 24.00p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			APS-C / PIXEL/PI XEL	[C4K] 4096x2160	48.00p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 48.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 24.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 24.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[4K] 3840x2160	48.00p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 48.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 24.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 24.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[3.3K] 3328x2496 (4:3)	48.00p, 200Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 48.00p, 200Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 24.00p, 150Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 24.00p, 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)

				[FHD] 1920x1080	48.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 48.00p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 24.00p, 100Mbps (4:2:2 10-bit LongGOP) (H.264/MPEG-4 AVC, LPCM) 24.00p, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
MP4(Lite) (*1)	59.94 Hz	FULL	[3.8K] 3840x2560 (3:2)	29.97p, 50Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable.	
		APS-C / PIXEL/PIXEL XEL	[3.8K] 3840x2560 (3:2)	29.97p, 50Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable.	
	50.00 Hz	FULL	[3.8K] 3840x2560 (3:2)	29.97p, 50Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable.	
		APS-C / PIXEL/PIXEL XEL	[3.8K] 3840x2560 (3:2)	29.97p, 50Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable.	
	24.00 Hz	FULL	-	-	
		APS-C / PIXEL/PIXEL XEL	-	-	
MP4 (*1)	59.94 Hz	FULL	[4K] 3840x2160	29.97p, 72Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable. 23.98p, 72Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable. 29.97p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC) 23.98p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)	
			[FHD] 1920x1080	59.94p, 28Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC) 29.97p, 20Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC) 23.98p, 24Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)	
		APS-C / PIXEL/PIXEL XEL	[4K] 3840x2160	59.94p, 100Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable. 29.97p, 72Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable. 23.98p, 72Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable. 29.97p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)	

					23.98p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)
				[FHD] 1920x1080	59.94p, 28Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC) 29.97p, 20Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC) 23.98p, 24Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)
		50.00 Hz	FULL	[4K] 3840x2160	25.00p, 72Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable. 25.00p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)
				[FHD] 1920x1080	50.00p, 28Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC) 25.00p, 20Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)
			APS-C / PIXEL/PIXEL	[4K] 3840x2160	50.00p, 100Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable. 25.00p, 72Mbps (4:2:0 10-bit LongGOP)* (H.265/HEVC, AAC) *HLG is selectable. 25.00p, 100Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)
				[FHD] 1920x1080	50.00p, 28Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC) 25.00p, 20Mbps (4:2:0 8-bit LongGOP) (H.264/MPEG-4 AVC, AAC)
		24.00 Hz	FULL	-	-
			APS-C / PIXEL/PIXEL	-	-
SLOW & QUICK	MOV (*1)	59.94 Hz	FULL	[FHD] 1920x1080	59.94p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 29.97p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) *The focus mode switches to MF if you select a frame rate with a number of frames 150 or more. *Angle of view narrows if you select



				a frame rate with a number of frames 180.
		APS-C	[C4K] 4096x2160	29.97p (Maximum output of sensor is 60fps), 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p (Maximum output of sensor is 60fps), 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[4K] 3840x2160	29.97p (Maximum output of sensor is 60fps), 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p (Maximum output of sensor is 60fps), 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[FHD] 1920x1080	59.94p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 29.97p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 23.98p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) *The focus mode switches to MF if you select a frame rate with a number of frames 150 or more. *Angle of view narrows if you select a frame rate with a number of frames 180.
	50.00 Hz	FULL	[FHD] 1920x1080	50.00p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 25.00p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) *The focus mode switches to MF if you select a frame rate with a number of frames 150 or more. *Angle of view narrows if you select a frame rate with a number of frames 180.
		APS-C	[C4K] 4096x2160	25.00p (Maximum output of sensor is 60fps), 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[4K] 3840x2160	25.00p (Maximum output of sensor is 60fps), 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
			[FHD] 1920x1080	50.00p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) 25.00p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) *The focus mode switches to MF if you select a frame rate with a number of frames 150 or more.

					*Angle of view narrows if you select a frame rate with a number of frames 180.
		24.00 Hz	FULL	[FHD] 1920x1080	24.00p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) *The focus mode switches to MF if you select a frame rate with a number of frames 150 or more. *Angle of view narrows if you select a frame rate with a number of frames 180.
			APS-C	[C4K] 4096x2160	24.00p (Maximum output of sensor is 60fps), 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[4K] 3840x2160	24.00p (Maximum output of sensor is 60fps), 150Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM)
				[FHD] 1920x1080	24.00p (Maximum output of sensor is 180fps)*, 100Mbps (4:2:0 10-bit LongGOP) (H.265/HEVC, LPCM) *The focus mode switches to MF if you select a frame rate with a number of frames 150 or more. *Angle of view narrows if you select a frame rate with a number of frames 180.
VIEWFINDER				-	
REAR MONITOR	Type		TFT LCD monitor with static touch control		
	Monitor size		Free-angle, 3.0-inch (7.6cm), 3:2 aspect		
	Pixels		Approx. 1.84 million dots		
	Field of view		Approx. 100%		
STATUS LCD				-	
FOCUS (*2)	Type		Phase Detection AF system / Contrast AF system		
	DFD technology		Yes		
	Focus mode		AFS (Single) / AFC (Continuous) / MF		
	AF mode		Tracking / Full Area AF / Zone (Horizontal/Vertical) / Zone / 1-Area+ / 1-Area / Pinpoint *Automatic Detection can be turned ON to switch between Human / Animal / Car / Motorcycle. Except when Pinpoint is set.		
	AF detective range		EV -6 - 18 (F1.4, ISO100 equivalent, AFS)		
	AF custom setting		AF Sensitivity, AF Area Switching Sensitivity, Moving Object Prediction		
	AF assist light		Yes		
	AF lock		Set the Fn button in custom menu to AF lock		
	Focus ring control		Nonlinear / Linear (90°/ 120°/ 150°/ 180°/ 210°/ 240°/ 270°/ 300°/ 330°/ 360°/ 720°/ 1080°/ Maximum)		
	Others		AF-ON, AF-ON: Near Shift, AF-ON: Far Shift, Focus Limiter, Focus Peaking, 1-Area AF Moving Speed, AF Micro Adjustment, Continuous AF (during motion picture recording), Focus/Shutter Priority, Focus Switching for Vert/Hor, AF/AE Lock Hold, AF+MF, MF Assist, MF Guide, Focus Ring		

		Lock, AF-Point Scope, Shutter AF, Half Press Shutter, Quick AF, Loop Focus Frame, Enlarged Live Display (Video), Touch Shutter, Touch AF/AE Function, Lens Focus Resume
EXPOSURE CONTROL	Light metering system	1,728-zone multi-pattern sensing system
	Light metering mode	Multiple / Center Weighted / Spot / Highlight Weighted
	Metering range	EV0-18 (F2.0 lens, ISO100 equivalent)
	Mode dial	Program AE (P) / Aperture Priority AE (A) / Shutter Priority AE (S) / Manual Exposure (M) / Creative Video (P/A/S/M)* / Slow&Quick / Custom 1, 2, 3 / Intelligent Auto *The same exposure operations as P/A/S/M mode is available.
	Exposure compensation	1/3 EV step $\pm$ 5EV ( $\pm$ 3EV for motion picture)
	ISO sensitivity (Standard output sensitivity)	[Normal] Auto / 50* / 100-51200 / 102400* / 204800* (1/3 or 1 EV step) *Extended ISO  [V-Log] Auto / 320* / 640-51200 (1/3 or 1 EV step) *Extended ISO  [HLG] (Video) Auto / 400-51200 / 102400* / 204800* (1/3 or 1 EV step) *Extended ISO
	Dual Native ISO	[Normal] Auto (Base ISO 100 / 640): Auto / 50* / 100-51200 / 102400* / 204800* *Extended ISO Low (Base ISO 100): Auto / 50* / 100-800 *Extended ISO High (Base ISO 640): Auto / 320* / 640-51200 / 102400* / 204800* *Extended ISO  [V-Log] Auto (Base ISO 640 / 4000): Auto / 320* / 640-51200 *Extended ISO Low (Base ISO 640): Auto / 320* / 640-5000 *Extended ISO High (Base 4000): Auto / 2000* / 4000-51200 *Extended ISO  [HLG] Auto (Base ISO 400 / 2500): Auto / 400-51200 / 102400* / 204800* *Extended ISO Low (Base ISO 400): Auto / 400-3200 High (Base ISO 2500): Auto / 2500-51200 / 102400* / 204800* *Extended ISO  [Cinelike D2 / Cinelike V2] Auto (Base ISO 200 / 1250): Auto / 100* / 200-51200 / 102400* / 204800* *Extended ISO Low (Base ISO 200): Auto / 100* / 200-1600 *Extended ISO High (Base ISO 1250): Auto / 640* / 1250-51200 / 102400* / 204800* *Extended ISO
	Synchro scan	Still image / Motion picture
	AE lock	Set the Fn button in custom menu to AE lock

IMAGE STABILIZATION SYSTEM			B.I.S. (5-axis / 5-stop*) *Based on the CIPA standard [Yaw/Pitch direction: focusing distance f=60mm when S-R2060 is used.] Dual I.S. 2 (6.5-stop*) *Based on the CIPA standard [Yaw/Pitch direction: focusing distance f=200mm when S-E70200 is used.]
WHITE BALANCE	White balance		AWB / AWBc / AWBw / Daylight / Cloudy / Shade / Incandescent / White Set 1, 2, 3, 4 / Color temperature setting 1, 2, 3, 4
	White balance adjustment		Blue/Amber bias, Magenta/Green bias
	Color temperature setting		2500-10000K in 100K
SHUTTER	Type		Electronic shutter
	Shutter speed		Still image: Time* (Max. 60 sec**), 1/8,000 - 60** Motion picture: 1/16,000 - 1/25 Creative Video M mode / MF mode: 1/16,000 - 1/2 *Bulb recording is available when using a Bluetooth remote control. **When the ISO setting exceeds 1600, the shutter speed will be reduced to less than 60 seconds.
	Self timer		10sec, 3 images / 2sec / 10sec / Custom Time
	Silent mode		Yes
BRACKET	AE bracket		3, 5, 7 images in 1/3, 2/3 or 1 EV step, max. $\pm 3$ EV, single/burst
	Aperture bracket		3, 5 or all positions
	Focus bracket		Yes
	White balance bracket		3 images in blue/amber axis or in magenta/green axis, color temperature setting
BURST SHOOTING	Burst speed		SH30: 30 frames/sec (AFS/AFC/MF) SH30 PRE: 30 frames/sec (AFS/AFC/MF) H: 9 frames/sec (AFS/MF), 8 frames/sec (AFC) (with Live View) M: 5 frames/sec (AFS/MF) (with Live View), 5 frames/sec (AFC) (with Live View) L: 2 frames/sec (AFS/AFC/MF) (with Live View)
	Number of recordable images		H*: RAW+JPEG: More than 35 images, RAW: More than 55 images, JPEG: More than 120 images M*: RAW+JPEG: More than 50 images, RAW: More than 200 images, JPEG: More than 200 images L*: RAW+JPEG: More than 200 images, RAW: More than 200 images, JPEG: More than 200 images SH: RAW / RAW+JPEG / JPEG: 36 images *Until the burst shooting speed slows. When recording is performed under the test conditions specified by Panasonic. *When using a card with SD Speed Class with "UHS-II UHS Speed Class 3 (U3)".
FLASH			-
COLOR SETTINGS	Photo Style	Photo Style	Standard / Vivid / Natural / L. Classic Neo / Flat / Landscape / Portrait / Monochrome / L. Monochrome / L. Monochrome D / L. Monochrome S / LEICA Monochrome / Cinelike D2 / Cinelike V2 / Like709 / V-Log / REAL TIME LUT / Like2100 (HLG) / Like2100 (HLG) Full Range* / My Photo

		Style 1-4 (5-10)* *Set to ON from Show/Hide Photo Style to select.
	Picture adjustment	Contrast / Highlight / Shadow / Saturation / Color Tone / Hue / Filter Effect / Grain Effect / Color Noise / Sharpness / Noise Reduction / ISO / WB / LUT *Adjustable settings vary depending on the Photo Style mode.
	Filter	Expressive / Retro / Old Days / High Key / Low Key / Sepia / Cross Process / Bleach Bypass
	LUT Library	Supported file types: .vlt, .cube Vlog_709 / Set 1-39 (Set 1-3: Sample LUT) *REAL TIME LUT in Photo Style, Apply LUT in Fn button, Apply LUT in RAW Processing, LUT View Assist in Log View Assist, LUT can be applied from these settings.
ZOOM FUNCTION	Hybrid zoom	Still image / Motion picture
	Crop zoom	Still image / Motion picture
MOTION PICTURE FUNCTION	Time lapse shot	Yes
	Stop motion animation	Yes
	Live cropping	Yes (Supports cropping from 5.9K (FULL) 30p/25p/24p video to 4K/FHD sizes)
	SS/Gain operation	Shutter Duration/ISO / Angle/ISO / Shutter Duration/dB
	Luminance level	8-bit: 0-255 / 16-235 / 16-255 10-bit: 0-1023 / 64-940 / 64-1023
	Master pedestal level	31 steps
	Color bars / 1kHz test tone	Yes (SMPTE / EBU / ARIB) / Yes
	LUT view assist	Monitor / HDMI
	HLG view assist	Monitor (MODE1 / MODE2 / OFF) / HDMI (AUTO / MODE1 / MODE2 / OFF)
	Anamorphic desqueeze display	2.0x / 1.8x / 1.5x / 1.33x / 1.30x / OFF
	Wave form monitor / Vectorscope	Selectable
	Knee control	Yes (in Like709 mode)
Red REC frame indicator	ON / OFF	
VERTICAL POSITION INFORMATION		Still image / Motion picture (ON/OFF)
LEVEL GAUGE		Yes
FUNCTION BUTTON	REC	Exposure Comp. / Dual Native ISO Setting / Sensitivity / White Balance / Photo Style / Apply LUT / REAL TIME LUT / Metering Mode / Aspect Ratio / Picture Quality / Picture Size / 1 Shot Spot Metering / Min. Shutter Speed / 1 Shot RAW+JPG / i.Dynamic Range / Color Shading Compensation / Filter Effect / One Push AE / Touch AE / AWB Lock / Exposure Mode / Synchro Scan (Photo) / Synchro Scan (Video) / Focus Mode / AF Mode / AF Detection Setting / Detecting Subject / AF Custom Setting (Photo) / AF Custom Setting (Video) / Focus Limiter / Focus Limiter Range Set / Focus Peaking / Focus Peaking Sensitivity / Focus Frame Moving Speed / Focus Ring Lock / AE LOCK / AF LOCK / AF/AE LOCK / AF-ON / AF-ON: Near Shift / AF-ON: Far Shift / AF-Point Scope / Focus Area

		Set / Enlarged Live Display (Video) / Drive Mode/ Drive Mode Setting / Bracketing / Silent Mode / Image Stabilizer / Hybrid Zoom (Photo) / Crop Zoom / Rec. File Format / Rec Quality / Rec Quality (My List) / Slow & Quick Setting / Time Code Display / Sound Rec Level Disp. / Mute Sound Input / Sound Rec Level Adj. / Sound Rec Quality / Sound Rec Level Limiter / Image Stabilizer / E-Stabilization (Video) / Boost I.S. (Video) / Image Area of Video / Hybrid Zoom (Video) / Crop Zoom / Focus Transition / Live Cropping / Live Cropping Settings / Q.MENU / Rec/Playback Switch / Video Record / Video Record (Creative Video) / Operation Lock / Dial Operation Switch / Preview / Preview Aperture Effect / Constant Preview / Level Gauge / Histogram / Luminance Spot Meter / Frame Marker / Photo Grid Line / Live View Boost / Monochrome Live View / Night Mode / Monitor Disp. Set / Video-Priority Display / Zebra Pattern / LUT View Assist (Monitor) / LUT View Assist (HDMI) / LUT Select (LUT View Assist) / HLG View Assist(Monitor) / HLG View Assist (HDMI) / Sheer Overlay / I.S. Status Scope / WFM/Vector Scope / Anamorphic Desqueeze Display / Color Bars / Focus Ring Control / AF Micro Adjustment / Lens Information / Wi-Fi / Save to Custom Mode / No Setting / Off (Disable Press and Hold) / Restore to Default	
	PLAY	Magnify from AF Point / LUT View Assist (Monitor) / HLG View Assist (Monitor) / Anamorphic Desqueeze Display / RAW Processing / Delete Single / Protect / Rating 1, 2, 3, 4, 5 / Rec/Playback Switch / Video Record / Video Record (Creative Video) / Night Mode / Wi-Fi / Send Image (Smartphone) / LUT View Assist (HDMI) / HLG View Assist (HDMI) / No Setting / Off (Disable Press and Hold) / Restore to Default	
OSD LANGUAGE		Please refer to "OSD" Sheet	
INTERFAC E	USB	USB Type-C® (USB 10Gbps)	
	HDMI (*3)	HDMI	HDMI TypeD Audio: ON / OFF, MP4: 2ch, MOV: 2ch
		Monitor-through	4:2:2 10bit (When [Rec Quality] is set to [4:2:2 10bit] or [4:2:0 10bit].) 4:2:2 8bit (When [Rec Quality] is set to [4:2:0 8bit].)
		Playback	59.94Hz: C4K/60p / C4K/30p / 4K/60p / 4K/30p / 1080/120p / 1080p / 1080i / 720p* / 480p* 50.00Hz: C4K/50p / C4K/25p / 4K/50p / 4K/25p / 1080/100p / 1080p / 1080i / 720p* / 576p* 24.00Hz: C4K/24p / 4K/24p / 1080p *Only for playback.
	Remote input	-	
	Audio	Build-in microphone	Stereo Wind Noise Canceller: OFF / Standard / High
External microphone / External audio device input		ø3.5mm for external microphone / external audio device MIC (Plug-in Power) / MIC / LINE Wind Cut: OFF / Low / Standard / High *When attaching 3.5mm microphone (sold separately).	

		Special Mic: Stereo / Shotgun *When attaching DMW-MS2 (sold separately).
	Speaker	Monaural
	Headphone output	-
	SD card slot	SD Memory Card / SDHC Memory Card* / SDXC Memory Card* *Compatible with UHS-I/UHS-II UHS Speed Class 3 standard SDHC/SDXC Memory Cards and UHS-II Video Speed Class 90 standard SDXC Memory Cards.
TC IN/OUT	Count up	Rec Run / Free Run
	Time code mode	Drop Frame / Non-Drop Frame (When system frequency [59.94Hz] is selected.)
	HDMI time code output	ON / OFF
WIRELESS	Wi-Fi	2.4GHz bands (STA/AP) (IEEE802.11b/g/n) 5GHz bands (STA/AP) (IEEE 802.11a/n/ac) Security: WPA/WPA2/WPA3 Please refer to "Wi-Fi" Sheet
	Bluetooth	Bluetooth® v5.0 (Bluetooth Low Energy (BLE))
POWER	Battery	Li-ion Battery Pack (7.2V, 2200mAh, 16Wh) (bundled) USB power supply, USB power charging
	Battery life (CIPA standard)	Approx. 470 images with S-R2060 Approx. 430 images with S-R28200 *Under the test conditions specified by Panasonic based on CIPA standard.
	Continuous recordable time (Motion picture) (*1)	MP4 [4K/60p]: Approx. 100 min (APS-C), MP4 [FHD/30p]: Approx. 120 min (FULL) *When using S-R2060 / S-R28200. When the battery is fully charged.
	Actual recordable time (Motion picture) (*1)	MP4 [4K/60p]: Approx. 50 min (APS-C), MP4 [FHD/30p]: Approx. 60 min (FULL) *When using S-R2060 / S-R28200. When the battery is fully charged.
DIMENSIONS / WEIGHT	Dimensions (W x H x D)	Approx. 126 x 73.9 x 46.7 mm / 4.96 x 2.91 x 1.84 inch (Body only, excluding protrusions) Approx. 126 x 73.9 x 133.9 mm / 4.96 x 2.91 x 5.28 inch (with S-R2060, excluding protrusions) Approx. 126 x 73.9 x 140.1 mm / 4.96 x 2.91 x 5.52 inch (with S-R28200, excluding protrusions)
	Weight	Approx. 486g / 1.08 lb (Body, Shoe Cover, Battery, SD Memory Card) (excluding body cap) Approx. 403g / 0.89 lb (Body, Shoe Cover) (excluding body cap)
OPERATING ENVIRONMENT	Operating temperature	0°C to 40°C (32°F to 104°F)
	Operating humidity	10%RH to 80%RH

STANDARD ACCESSORIES	Software	Recording	<p>LUMIX Lab / LUMIX Sync</p> <ul style="list-style-type: none"> <li>· This software is used to control a Panasonic digital camera from a smartphone. Check the site below to download and install the software.  <a href="https://panasonic.jp/support/global/cs/dsc/">https://panasonic.jp/support/global/cs/dsc/</a> (For Android™ / iOS)</li> </ul> <p>LUMIX Tether</p> <ul style="list-style-type: none"> <li>· This software is used to control a Panasonic digital camera from a computer. It allows you to change various settings of the camera, perform remote recording, and save remotely recorded images to the PC. Check the site below to download and install the software.  <a href="http://panasonic.jp/support/global/cs/soft/download/d_lumixtether.html">http://panasonic.jp/support/global/cs/soft/download/d_lumixtether.html</a> (For Windows / Mac)</li> </ul>
		Playback / Editing	<ul style="list-style-type: none"> <li>· The software to process RAW file on computer is not bundled with this camera. To do this, SILKYPIX Developer Studio is available for download at Ichikawa Soft Laboratory's website using computer connected to the Internet.  <a href="http://www.isl.co.jp/SILKYPIX/english/p/">http://www.isl.co.jp/SILKYPIX/english/p/</a> (For Windows / Mac)</li> </ul>
	Standard accessories	<p>DC-S9 Kit  Body Cap, Shoe Cover, Shoulder Strap, Battery Pack</p> <p>DC-S9K Kit / DC-S9H Kit  Body Cap, Shoe Cover, Shoulder Strap, Battery Pack, Lens Cap, Lens Hood, Lens Rear Cap</p> <ul style="list-style-type: none"> <li>· The Operating Instructions for advanced features is available for downloaded at Panasonic LUMIX Customer Support Site using PC, smartphone or tablet connected to the Internet.</li> </ul>	