

LUMIX GH5s C4K Mirrorless ILC Camera Body with 10.2 Megapixel High Sensitivity MOS Sensor, C4K 60p & 4:2:2 10-bit Internal, & WiFi + Bluetooth - DC-GH5S DC-GH5S

- **TYPE**

- Type Digital Single Lens Mirrorless camera
 - Recording media SD Memory Card, SDHC Memory Card, SDXC Memory Card
 - Recording media (Compatible with UHS-I/UHS-II UHS Speed Class 3 standard SDHC/SDXC Memory Cards and UHS-II Video Speed Class 60 standard SDXC Memory Cards)
 - Image sensor size 17.3 x 13.0 mm (in 4:3 aspect ratio)
 - Lens mount Micro Four Thirds mount
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- **IMAGE SENSOR**

- Type Live MOS Sensor
 - Total pixels 11.93 Megapixels
 - Camera effective pixels 10.28 Megapixels
 - Color filter Primary color filter
 - Dust reduction system Supersonic wave filter
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- **RECORDING SYSTEM**

- System frequency 59.94Hz, 50.00Hz, 24.00Hz
- Aspect ratio 4:3, 3:2, 16:9, 1:1
- Image quality RAW, RAW+Fine, RAW+Standard, Fine, Standard *RAW bit size is selectable from 14-bit to 10-bit.
- Color Space sRGB, AdobeRGB
- Continuous recordable time (Motion picture)** AVCHD [FHD/60p]: Approx. 130 min (rear monitor), 130 min (LVF) with H-FS12060
- Continuous recordable time (Motion picture)** AVCHD [FHD/60i]: Approx. 130 min (rear monitor), 130 min (LVF) with H-FS12060
- Continuous recordable time (Motion picture)** MP4 [4K/60p]: Approx. 120 min (rear monitor), 120 min (LVF) with H-FS12060
- Continuous recordable time (Motion picture)** MP4 [4K/30p]: Approx. 120 min (rear monitor), 110 min (LVF) with H-FS12060
- Actual recordable time (Motion picture)** AVCHD [FHD/60p]: Approx. 65 min (rear monitor), 65 min (LVF) with H-FS12060
- Actual recordable time (Motion picture)** AVCHD [FHD/60i]: Approx. 65 min (rear monitor), 65 min (LVF) with H-FS12060
- Actual recordable time (Motion picture)** MP4 [4K/60p]: Approx. 60 min (rear monitor), 60 min (LVF) with H-FS12060
- Actual recordable time (Motion picture)** MP4 [4K/30p]: Approx. 60 min (rear monitor), 55 min (LVF) with H-FS12060
- *Recording file format*
- Still image JPEG (DCF, Exif 2.31), RAW (14-bit / 12-bit)
- 4K PHOTO MP4 (H.264/MPEG-4 AVC, Audio format: AAC (2ch))

- Motion picture MOV: H.264/MPEG-4 AVC (Audio format: LPCM (2ch 48kHz/16-bit, 48kHz/24-bit*, 96kHz/24-bit*)) *When attaching DMW-XLR1 (sold separately).
- Motion picture MP4: H.264/MPEG-4 AVC, H.265/HEVC (Audio format: LPCM (2ch 48kHz/16-bit), AAC (2ch))
- Motion picture AVCHD Progressive, AVCHD (Audio format: Dolby Audio 2ch)
- *File size(Pixels) -Still Image*
- 4:3 3680x2760(L) / 2592x1944(M) / 1824x1368(S) / 3328x2496(4K PHOTO)
- 3:2 3840x2560(L) / 2736x1824(M) / 1920x1280(S) / 3504x2336(4K PHOTO)
- 16:9 4016x2256(L) / 2816x1584(M) / 1920x1080(S) / 3840x2160(4K PHOTO)
- 1:1 2752x2752(L) / 1936x1936(M) / 1360x1360(S) / 2880x2880(4K PHOTO)
- *File size (Pixels) -Motion picture*
- MOV** / *****-59.94Hz <[C4K]4096x2160>59.94p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res A
- MOV** / *****-59.94Hz <[C4K]4096x2160>29.97p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[C4K]4096x2160>23.98p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[C4K]4096x2160>23.98p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[4K] 3840x2160>59.94p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res A
- MOV** / *****-59.94Hz <[4K] 3840x2160>29.97p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[4K] 3840x2160>29.97p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res A / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[4K] 3840x2160>23.98p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[4K] 3840x2160>23.98p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res A / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[Full HD] 1920x1080>59.94p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Audio)
- MOV** / *****-59.94Hz <[Full HD] 1920x1080>59.94p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[Full HD] 1920x1080>29.97p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Audio)
- MOV** / *****-59.94Hz <[Full HD] 1920x1080>29.97p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <[Full HD] 1920x1080>23.98p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Audio)
- MOV** / *****-59.94Hz <[Full HD] 1920x1080>23.98p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <[C4K] 4096x2160>50.00p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <[C4K] 4096x2160>25.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)

- MOV** / *****-50.00Hz <[4K] 3840x2160>50.00p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <[4K] 3840x2160>25.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <[4K] 3840x2160>25.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <[Full HD] 1920x1080>50.00p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <[Full HD] 1920x1080>50.00p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <[Full HD] 1920x1080>25.00p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <[Full HD] 1920x1080>25.00p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-24.00Hz <[C4K] 4096x2160>24.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-24.00Hz <[C4K] 4096x2160>24.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-24.00Hz <[4K] 3840x2160>24.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-24.00Hz <[4K] 3840x2160>24.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-24.00Hz <[Full HD] 1920x1080>24.00p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-24.00Hz <[Full HD] 1920x1080>24.00p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MP4** 59.94Hz <[C4K] 4096x2160>59.94p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM)
- MP4** 59.94Hz <[C4K] 4096x2160>29.97p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM)
- MP4** 59.94Hz <[C4K] 4096x2160>23.98p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 59.94Hz <[C4K] 4096x2160>23.98p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM)
- MP4** 59.94Hz <[4K] 3840x2160>59.94p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM)
- MP4** 59.94Hz <[4K] 3840x2160>29.97p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 59.94Hz <[4K] 3840x2160>29.97p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (AAC)
- MP4** 59.94Hz <[4K] 3840x2160>23.98p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 59.94Hz <[4K] 3840x2160>23.98p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (AAC)
- MP4** 59.94Hz <[4K] 3840x2160>29.97p, 72Mbps (4:2:0 10-bit LongGOP) (AAC) (HEVC, HLG recording)
- MP4** 59.94Hz <[4K] 3840x2160>23.98p, 72Mbps (4:2:0 10-bit LongGOP) (AAC) (HEVC, HLG recording)
- MP4** 59.94Hz <[Full HD] 1920x1080>59.94p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 59.94Hz <[Full HD] 1920x1080>59.94p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM)

- MP4** 59.94Hz <[Full HD] 1920x1080>29.97p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 59.94Hz <[Full HD] 1920x1080>29.97p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:2 10-bit LongGOP) (LPCM)
- MP4** 59.94Hz <[Full HD] 1920x1080>23.98p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 59.94Hz <[Full HD] 1920x1080>23.98p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:2 10-bit LongGOP) (LPCM)
- MP4** 59.94Hz <[Full HD] 1920x1080>59.94p, 28Mbps (4:2:0 8-bit LongGOP) (AAC)
- MP4** 59.94Hz <[Full HD] 1920x1080>29.97p, 20Mbps (4:2:0 8-bit LongGOP) (AAC)
- MP4** 59.94Hz <[Full HD] 1920x1080>23.98p, 24Mbps (4:2:0 8-bit LongGOP) (AAC)
- MP4** 50.00Hz <[C4K] 4096x2160>50.00p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM)
- MP4** 50.00Hz <[C4K] 4096x2160>25.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM)
- MP4** 50.00Hz <[4K] 3840x2160>50.00p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM)
- MP4** 50.00Hz <[4K] 3840x2160>25.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 50.00Hz <[4K] 3840x2160>25.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (AAC)
- MP4** 50.00Hz <[4K] 3840x2160>25.00p, 72Mbps (4:2:0 10-bit LongGOP) (AAC) (HEVC, HLG recording)
- MP4** 50.00Hz <[Full HD] 1920x1080>50.00p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 50.00Hz <[Full HD] 1920x1080>50.00p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:2 10-bit LongGOP) (LPCM)
- MP4** 50.00Hz <[Full HD] 1920x1080>25.00p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
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- MP4** 50.00Hz <[Full HD] 1920x1080>50.00p, 28Mbps (4:2:0 8-bit LongGOP) (AAC)
- MP4** 50.00Hz <[Full HD] 1920x1080>25.00p, 20Mbps (4:2:0 8-bit LongGOP) (AAC)
- MP4** 24.00Hz <[C4K] 4096x2160>24.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
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- MP4** 24.00Hz <[Full HD] 1920x1080>24.00p, 200Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
- MP4** 24.00Hz <[Full HD] 1920x1080>24.00p, 100Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:2 10-bit LongGOP) (LPCM)
- MP4** 24.00Hz <[Full HD] 1920x1080>24.00p, 24Mbps (4:2:0 8-bit LongGOP) (AAC)
- AVCHD Progressive**AVCHD** 59.94Hz <[Full HD] 1920x1080>59.94p, 28Mbps (LongGOP) (Dolby)
- AVCHD Progressive**AVCHD** 59.94Hz <[Full HD] 1920x1080>59.94i, 24Mbps (LongGOP) (Dolby) (Se output is 29.97fps)
- AVCHD Progressive**AVCHD** 59.94Hz <[Full HD] 1920x1080>59.94i, 17Mbps (LongGOP) (Dolby) (Se output is 59.94fps)
- AVCHD Progressive**AVCHD** 59.94Hz <[Full HD] 1920x1080>23.98p, 24Mbps (LongGOP) (Dolby)

- AVCHD Progressive**AVCHD** 50.00Hz <[Full HD] 1920x1080>50.00p, 28Mbps (LongGOP) (Dolby)
- AVCHD Progressive**AVCHD** 50.00Hz <[Full HD] 1920x1080>50.00i, 24Mbps (LongGOP) (Dolby) (Se output is 25.00fps)
- AVCHD Progressive**AVCHD** 50.00Hz <[Full HD] 1920x1080>50.00i, 17Mbps (LongGOP) (Dolby) (Se output is 50.00fps)

• WIRELESS

- WiFi "Wi-Fi2.4GHz (STA/AP) (IEEE802.11b/g/n)
- WiFi Wi-Fi5GHz (STA) (IEEE 802.11a/n/ac) *5GHz Wi-Fi is not available in some countries.
- WiFi 1-11, 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 161, 165 ch
- Bluetooth Bluetooth® v4.2 (Bluetooth Low Energy (BLE))
- QR code connection / Password-less connection Yes / Yes (ON / OFF selectable)

• VIEWFINDER

- Type OLED Live View Finder (3,680k dots)
- Field of view Approx. 100%
- Magnification Approx. 1.52x / 0.76x (35mm camera equivalent) with 50 mm lens at infinity; -1.0 m-1
- Eye point Approx. 21 mm from eyepiece lens
- Diopter adjustment -4.0 - +3.0 (dpt)
- Eye sensor Yes
- Display speed 120fps / 60fps

• FOCUS

- Type Contrast AF system
- DFD technology Yes
- Post Focus Yes
- Focus Stacking Yes
- Focus mode AFS (Single) / AFF (Flexible) / AFC (Continuous) / MF
- AF mode Face/Eye Detection / Tracking / 225-Area / Custom Multi / 1-Area / Pinpoint
- AF mode (Full area touch is available) (Scalable AF frame size and flexible AF position)
- AF detective range EV -5 - 18 (ISO100 equivalent)
- AF assist lamp Yes
- AF lock Yes (AF/AE LOCK button)
- AF custom setting AF Sensitivity, AF Area Switching Sensitivity, Moving Object Prediction
- Others One Shot AF, Shutter AF, Half Press Release, Quick AF, Continuous AF (during motion picture recording), Eye Sensor AF, AF+MF, MF Assist, Touch MF Assist, Focus Peaking, Touch AF/AE Function, Touch Pad AF, Touch Shutter

• EXPOSURE CONTROL

- Light metering system 1,728-zone multi-pattern sensing system
- Light metering mode Multiple / Center Weighted / Spot

- Metering range EV0-18 (F2.0 lens, ISO100 equivalent)
- Exposure mode Program AE, Aperture Priority AE, Shutter Priority AE, Manual
- ISO sensitivity (Standard Output Sensitivity) Still image: Auto / Intelligent ISO / 80* / 160 / 200 / 400 / 800 / 1600 / 3200 / 6400 / 12800 / 25600 / 51200 / 102400* / 204800* (Changeable to 1/3 EV step) *Extended ISO
- ISO sensitivity (Standard Output Sensitivity) Creative Video Mode: Auto / 80* / 160 / 200 / 400 / 800 / 1600 / 3200 / 6400 / 12800 / 25600 / 51200 / 102400* / 204800* (Changeable to 1/3 EV step) *Extended ISO
- Exposure compensation 1/3 EV step ± 5 EV (± 3 EV for motion picture)
- AE lock Yes (AF/AE LOCK button)
- *Dual Native ISO*
- [Normal] Native ISO: 400, 2500
- [Normal] Auto: Auto / 80* / 160-51200 / 102400* / 204800* (VFR: Auto / 80* / 160-51200 / 102400* / 204800* *Extended ISO
- [Normal] Low: Auto / 80* / 160-800 (VFR: Auto / 80* / 160-1250) *Extended ISO
- [Normal] High: Auto / 800-51200 / 102400* / 204800* (VFR: Auto / 1250-51200 / 102400* / 204800*) *Extended ISO
- [V-LogL] Native ISO: 800, 5000
- [V-LogL] Auto: Auto / 320-25600 (VFR: Auto / 320-25600)
- [V-LogL] Low: Auto / 320-1600 (VFR: Auto / 320-2500)
- [V-LogL] High: Auto / 1600-25600 (VFR: Auto / 2500-25600)
- [HLG] Native ISO: 800, 5000
- [HLG] Auto: Auto / 320-51200 / 102400* / 204800* *Extended ISO
- [HLG] Low: Auto / 320-1600
- [HLG] High: Auto / 1600-51200 / 102400* / 204800* *Extended ISO

• WHITE BALANCE

- White balance AWB / AWBc / Daylight / Cloudy / Shade / incandescent / Flash / 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 Focal-plane shutter
- Shutter speed Still image: Bulb (Max. 30 minutes), 1/8,000 - 60
- Shutter speed Electronic shutter: 1/16,000 - 1
- Shutter speed Motion picture: 59.94Hz: 1/16,000 - 1/30, 50.00Hz: 1/16,000 - 1/25, 23.98Hz: 1/16,000 - 1/24 (When using Synchro Scan)
- Shutter life Approx. 200,000 images
- Self timer 10sec, 3 images / 2sec / 10sec
- Remote control Remote control with Bulb function by DMW-RSL1 (sold separately)

• BRACKET

- AE bracket 3, 5, 7 images in 1/3, 2/3 or 1 EV step, max. ± 3 EV, single/burst

- Aperture Bracket 3, 5 or all positions in 1 EV step
 - Focus Bracket 1 to 999 images, focus steps can be set in 10 levels
 - White balance bracket 3 exposures in blue/amber axis or in magenta/green axis, color temperature setting
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• BURST SHOOTING

- Burst speed [14-bit]
 - Burst speed AFS/MF: H: 11 frames/sec, M: 6 frames/sec (with Live View), L: 2 frames/sec (with Live View) *When H-ES12060 is used.
 - Burst speed AFF/AFC: H: 7 frames/sec (with Live View), M: 5 frames/sec (with Live View), L: 2 frames/sec (with Live View) *When H-ES12060 is used.
 - Burst speed [12-bit]
 - Burst speed AFS/MF: H: 12 frames/sec, M: 7 frames/sec (with Live View), L: 2 frames/sec (with Live View) *When H-ES12060 is used.
 - Burst speed AFF/AFC: H: 8 frames/sec (with Live View), M: 6 frames/sec (with Live View), L: 2 frames/sec (with Live View) *When H-ES12060 is used.
 - Number of recordable images More than approx. 80 images (when there are RAW files with the particular speed.)
 - Number of recordable images More than approx. 600 images (when there are no RAW files and using a card with SD Speed Class with "UHS-II UHS Speed Class 3 (U3)".)
 - Number of recordable images (depending on memory card size, battery power, picture size, and compression)
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• 4K PHOTO**

- Burst speed 60 frames/sec, 30 frames/sec
 - Exif information Yes (Each JPEG image cropped out of the 4K burst file complies with EXIF.)
 - Marking function Yes (in 4K Burst (S/S) mode)
 - Loop rec function Yes (in 4K Burst (S/S) mode)
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• FLASH

- Flash type TTL External Flash (sold separately)
 - Flash Mode Auto*, Auto/Red-eye Reduction*, Forced On, Forced On/Red-eye Reduction, Slow Sync., Slow Sync./Red-eye Reduction, Forced Off *For iA, iA+ only.
 - Synchronization speed Less than 1/250 second
 - Flash output adjustment 1/3EV step ± 3 EV
 - Flash synchronization 1st Curtain Sync, 2nd Curtain Sync.
 - Synchronization for flash dimming and exposure compensation Yes
 - Wireless control Yes (When using DMW-FL200L / FL360L / FL580L (sold separately)), Wireless Channel 1ch/2ch/3ch/4ch
 - Flash sync socket Yes
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• REAR MONITOR

- Type TFT LCD monitor with static touch control
- Monitor size Free-angle 3.2-inch (8.0cm) / 3:2 aspect
- Pixels Approx. 1,620k dots
- Field of view Approx. 100%

- Monitor adjustment Brightness, Contrast, Saturation, Red-Green, Blue-Yellow

- **LIVE VIEW**

- Digital zoom 2x, 4x
- Extra Tele Conversion Still image: Max. 2x
- Extra Tele Conversion Motion picture: 2.1x (FHD)
- Other functions Level Gauge, Real-time Histogram, Guide Lines (3 patterns), Video Guide Line, Center Marker, Highlight display (Still image / motion picture), Zebra pattern (Still image / motion picture)

- **DIRECTION DETECTION FUNCTION**

- Direction Detection Function Yes

- **FUNCTION BUTTON**

- REC Wi-Fi / Q.MENU / Video Record / LVF/Monitor Switch / LVF/Monitor Disp. Style / AF/AE LOCK / ON / Preview / One Push AE / Touch AE / Level Gauge / Focus Area Set / Zoom Control / 1 Shot RAW+JF Shot Spot Metering / 1 Shot 4K PHOTO / Operation Lock / Dial Operation Switch / Destination Slot / Photo Style / Filter Select / Aspect Ratio / Picture Size / Quality / RAW Bit Size / AFS/AFF / Metering Mode / Bu Rate / 4K PHOTO / Self Timer / Bracket / Highlight Shadow / i. Dynamic / i. Resolution / Min. Shtr Speed HDR / Shutter Type / Flash Mode / Flash Adjust. / Wireless Flash Setup / Ex. Tele Conv. / Digital Zoom / Stabilizer / 4K Live Cropping / Motion Pic. Rec Format / Motion Pic. Rec Quality / Variable Frame Rate / Picture Mode in Rec. / Synchro Scan / Time Code Display / Sound Rec Level Adj. / Mic. Directivity Adjust HLG View Assist (HDMI) / Color Bars / WFM/Vector Scope / Anamorphic Desqueeze Display / HLG View Assist / LUT Monitor Display / LUT HDMI Display / Focus Transition / Silent Mode / Peaking / Histogram Guide Line / Video Guide Line / Zebra Pattern / Monochrome Live View / Constant Preview / Live View E Rec Area / Video-Priority Display / Step Zoom / Zoom Speed / Night Mode / Exposure Comp. / Sensitivity White Balance / ON/OFF of each item in White Balance / ON/OFF of each item in Photo Style / AF Mode/ Rec/Playback Switch / Off / Restore to Default / Focus Ring Lock***** / E-Stabilization (Video)***** / So Rec Level Disp.*****
- PLAY Wi-Fi / LVF/Monitor Switch / Rec/Playback Switch / Slot Change / 4K PHOTO Play / Delete Single Protect / Rating 1, 2, 3, 4, 5 / RAW Processing / 4K PHOTO Bulk Saving / Copy / Anamorphic Desqueeze Display / HLG View Assist / HLG View Assist (HDMI) / LUT Monitor Display / LUT HDMI Display / Nig Mode / Off / Restore to Default

- **PHOTO STYLE**

- Photo Style Standard / Vivid / Natural / Monochrome / L. Monochrome / L. Monochrome D***** / Scener Portrait / Custom 1, 2, 3, 4 / Cinelike D / Cinelike V / Like709 / Hybrid Log Gamma* / V-LogL
- Photo Style *When Creative Video Mode is selected.

- **CREATIVE CONTROL**

- Creative Control Expressive / Retro / Old Days / High Key / Low Key / Sepia / Monochrome / Dynamic Monochrome / Rough Monochrome* / Silky Monochrome* / Impressive Art / High Dynamic / Cross Proce Toy Effect / Toy Pop / Bleach Bypass / Miniature Effect** / Soft Focus* / Fantasy / Star Filter* / One Point Color / Sunshine*
- Creative Control *For photos only. **Not available in 4:2:2 10-bit video or C4K/4K video recording.

- **VARIABLE FRAME RATE**

- 59.94Hz MOV/MP4(LPCM)/FHD/59.94p
- 59.94Hz 2, 30, 56, 58, 60, 62, 64, 90, 120, 150, 180, 210, 240 fps
- 59.94Hz MOV/MP4(LPCM)/4K/29.97p, MOV/MP4(LPCM)/C4K/29.97p, AVCHD/FHD/29.97p

- 59.94Hz 2, 15, 26, 28, 30, 32, 34, 45, 60 fps
- 59.94Hz MOV/MP4(LPCM)/FHD/29.97p
- 59.94Hz 2, 15, 26, 28, 30, 32, 34, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180, 195, 210, 225, 240 fps
- 59.94Hz MOV/MP4(LPCM)/4K/23.98p, MOV/MP4(LPCM)/C4K/23.98p, AVCHD/FHD/23.98p
- 59.94Hz 2, 12, 20, 22, 24, 26, 28, 36, 48, 60 fps
- 59.94Hz MOV/MP4(LPCM)/FHD/23.98p
- 59.94Hz 2, 12, 20, 22, 24, 26, 28, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144, 156, 168, 180, 192, 204, 216, 228, 240 fps
- 50.00Hz MOV/MP4(LPCM)/FHD/50.00p
- 50.00Hz 2, 25, 46, 48, 50, 52, 54, 75, 100, 125, 150, 200, 240 fps
- 50.00Hz MOV/MP4(LPCM)/4K/25.00p, MOV/MP4(LPCM)/C4K/25.00p, AVCHD/FHD/25.00p
- 50.00Hz 2, 12, 21, 23, 25, 27, 30, 37, 60 fps
- 50.00Hz MOV/MP4(LPCM)/FHD/25.00p
- 50.00Hz 2, 12, 21, 23, 25, 27, 30, 37, 50, 62, 75, 87, 100, 112, 125, 137, 150, 175, 200, 225, 240 fps
- 24.00Hz MOV/MP4(LPCM)/C4K/24.00p, MOV/MP4(LPCM)/4K/24.00p
- 24.00Hz 2, 12, 20, 22, 24, 26, 28, 36, 48, 60 fps
- 24.00Hz MOV/MP4(LPCM)/FHD/24.00p
- 24.00Hz 2, 12, 20, 22, 24, 26, 28, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144, 156, 168, 180, 192, 204, 216, 228, 240 fps

• ANAMORPHIC MODE

- *Anamorphic 4K mode (4:3)*
- MOV** / *****-59.94Hz <3328x2496>59.94p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <3328x2496>29.97p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <3328x2496>29.97p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio)
100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <3328x2496>23.98p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-59.94Hz <3328x2496>23.98p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio)
100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <3328x2496>50.00p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <3328x2496>25.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-50.00Hz <3328x2496>25.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio)
100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MOV** / *****-24.00Hz <3328x2496>24.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM, High-Res Audio)
- MOV** / *****-24.00Hz <3328x2496>24.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM, High-Res Audio)
100Mbps (4:2:0 8-bit LongGOP) (LPCM, High-Res Audio)
- MP4** 59.94Hz <3328x2496>59.94p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM)
- MP4** 59.94Hz <3328x2496>29.97p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)

- MP4** 59.94Hz <3328x2496>29.97p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM)
 - MP4** 59.94Hz <3328x2496>23.98p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
 - MP4** 59.94Hz <3328x2496>23.98p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM)
 - MP4** 50.00Hz <3328x2496>50.00p, 150Mbps (4:2:0 8-bit LongGOP) (LPCM)
 - MP4** 50.00Hz <3328x2496>25.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
 - MP4** 50.00Hz <3328x2496>25.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM)
 - MP4** 24.00Hz <3328x2496>24.00p, 400Mbps (4:2:2 10-bit ALL-Intra) (LPCM)
 - MP4** 24.00Hz <3328x2496>24.00p, 150Mbps (4:2:2 10-bit LongGOP) (LPCM) / 100Mbps (4:2:0 8-bit LongGOP) (LPCM)
-

• MOTION PICTURE FUNCTION

- Master pedestal level 31 steps
 - Luminance level 8-bit: 0-255 / 16-235 / 16-255
 - Luminance level 10-bit: 0-1023 / 64-940 / 64-1023
 - Wave form monitor / Vectorscope Selectable
 - LUT display LUT Monitor Display / LUT HDMI Display
 - Synchro scan Yes
 - Time code Count Up: Rec Run/Free Run selectable, Time Code Mode: Drop frame/Non-drop frame select (When system frequency [59.94Hz] is selected.)
 - SS/Gain operation Shutter Duration/ISO / Angle/ISO / Shutter Duration/dB
 - Color bars / 1kHz test tone Yes (SMPTE / EBU / ARIB) / Yes
 - Knee control Yes (in Like709 mode)
-

• PLAYBACK

- Playback mode 30-thumbnail display, 12-thumbnail display, Calendar display, Zoomed playback (Max. 16 Slideshow (All / Picture Only / Video Only, duration & effect is selectable), Playback Mode (Normal / Picture Only / Video Only), Protect, Rating, Title Edit, Face Recognition Edit, RAW Processing, 4K PHOTO Bulk Saving, 4K PHOTO Noise Reduction, Light Composition, Clear Retouch, Text Stamp, Copy, Resize, Crop, Rotate, Video Divide, Time Lapse Video, Stop Motion Video, Rotation Display, Anamorphic Desqueeze Di HLG View Assist, LUT Monitor Display, LUT HDMI Display, Picture Sort, Delete Confirmation, Creating Pictures from a Motion Picture
-

• IMAGE PROTECTION / DELETE

- Protection Single / Multi or Cancel
 - Delete Single / Multi / All / Except Rating
-

• INTERFACE

- USB USB Type-C, SuperSpeed USB 3.1 Gen1
- Audio video output No
- Remote input ϕ 2.5mm for remote
- External microphone / external audio device input ϕ 3.5mm for external microphone / external audio device

- External microphone / external audio device input MIC (Plug-in Power) / MIC / LINE is selectable.
- External microphone / external audio device input Stereo/Lens Auto/Shotgun/Super Shotgun/Manual is selectable when attaching DMW-MS2 (sold separately).
- Headphone output ϕ 3.5mm for headphone
- Microphone Stereo, Wind Noise Canceller: OFF / Low* / Standard / High *When attaching DMW-MS2 (sold separately).
- High-res audio recording Yes with DMW-XLR1 (sold separately)
- Speaker Monaural
- SD card slot Slot 1, Slot 2
- TC IN/OUT Yes with BNC Converter Cable (bundled)
- **HDMI*****
- Monitor-through 4:2:2 10-bit (When [Rec Quality] is set to [4:2:2 10bit] or when [Rec Quality] is set to [C4K/60p]/[C4K/50p]/[4K/60p]/[4K/50p] and [4K/60p Bit Mode]/[4K/50p Bit Mode] is set to [4:2:2 10bit]. When [C4K/60p]/[C4K/50p]/[4K/60p]/[4K/50p] mode is selected in [Rec Quality], it is not possible to record motion picture or still picture on the SD memory card in the camera unit.)
- Monitor-through 4:2:2 8bit (When [Rec Quality] is set to [4:2:0 8bit], except for [C4K/60p]/[C4K/50p]/[4K/60p]/[4K/50p])
- Monitor-through 4:2:0 8bit (When [Rec Quality] is set to [C4K/60p]/[C4K/50p]/[4K/60p]/[4K/50p] and [4K/60p Bit Mode]/[4K/50p Bit Mode] is set to [4:2:0 8bit].)
- Monitor-through Auto / 4K/30p/25p / 1080p / 1080i / OFF
- Monitor-through Information display ON/OFF (selectable)
- Monitor-through HLG View Assist (HDMI) AUTO / MODE1 / MODE2 / OFF (selectable)
- Monitor-through Automatic down-conversion
- Playback HDMI TypeA / VIERA Link, Audio: Stereo
- Playback 59.94Hz: Auto / C4K/60p / C4K/30p / 4K/60p / 4K/30p / 1080p / 1080i / 720p / 480p
- Playback 50.00Hz: Auto / C4K/50p / C4K/25p / 4K/50p / 4K/25p / 1080p / 1080i / 720p / 576p
- Playback 24.00Hz: Auto / C4K/24p / 4K/24p / 1080p

• LANGUAGE

- OSD language Japanese, English, German, French, Italian, Spanish, Portuguese, Chinese (Traditional)

• POWER

- Battery Li-ion Battery Pack (7.2V, 1860mAh, 14Wh) (bundled)
- Battery life (CIPA standard) Approx. 440 images (rear monitor), 410 images (LVF), 1,300 images (Power Saver mode*) with H-FS12060
- Battery life (CIPA standard) *Under the test conditions specified by Panasonic based on CIPA standard. When the time to get in the sleep mode is set to 1 sec
- Battery grip DMW-BGGH5 (sold separately)

• DIMENSIONS / WEIGHT

- Dimensions (W x H x D) 138.5 x 98.1 x 87.4 mm / 5.45 x 3.86 x 3.44 inch (excluding protrusions)
- Weight Approx. 660g / 1.46 lb (SD card x 1, Battery, Body)

- Weight Approx. 580g / 1.28 lb (Body only)
-

- **OPERATING ENVIRONMENT**

- Operating temperature**** -10oC to 40oC (14oF to 104oF)
 - Operating humidity 10%RH to 80%RH
-

- **STANDARD ACCESSORIES**

- Standard accessories Battery Charger (AC Adaptor), Battery Pack, Body Cap, Hot Shoe Cover, Eye Cup, Synchro Socket Cap, Cover for the Battery Grip Connector, USB Connection Cable, Shoulder Strap, Cable Holder, BNC Converter Cable
 - Standard accessories • The DC-GH5S Operating Instructions for advanced features is available for download at Panasonic LUMIX Customer Support Site using PC, smartphone or tablet connected to the Internet.
 - *Software*
 - Recording LUMIX Tether
 - Recording • This software is used to control a Panasonic digital camera from a PC. It allows you to change various settings of the camera, perform remote recording, and save remotely recorded images to the PC. Click the site below to download and install the software.
 - Recording http://panasonic.jp/support/global/cs/soft/download/d_lumixtether.html (For Windows / Mac)
 - Playback / Editing • The software to edit and playback images on computer is not bundled with this camera. To do this, PHOTOfunSTUDIO 10.0XE is available for download at Panasonic website using computer connected to the Internet.
 - Playback / Editing http://panasonic.jp/support/global/cs/soft/download/d_pfs10xe.html (For Windows)
 - Playback / Editing • 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.
 - Playback / Editing <http://www.isl.co.jp/SILKYPIX/english/p/> (For Windows / Mac)
-

- **INTERCHANGEABLE LENS-1**

- Lens Name N/A
- Lens Construction N/A
- Nano Surface Coating N/A
- Mount N/A
- Optical Image Stabilizer N/A
- Focal Length N/A
- Aperture Type N/A
- Aperture range N/A
- Aperture N/A
- Maximum Aperture N/A
- Minimum Aperture N/A

- Closest Focusing Distance N/A
- Maximum magnification N/A
- Diagonal Angle of View N/A
- Weatherproof N/A
- *General*
- Filter Size N/A
- Max. Diameter N/A
- Overall Length N/A
- Weight [g] N/A
- Weight [oz] N/A
- Others N/A

• NOTES

- IMAGE STABILIZATION SYSTEM -
 - PRINT PictBridge compatible
 - NOTE ** About motion picture recording / 4K PHOTO recording
 - NOTE - Use a card with SD Speed Class with "Class 4" or higher when recording motion pictures in [AVC] or [MP4(under 28Mbps)].
 - NOTE - Use a card with SD Speed Class with "UHS-I / UHS-II UHS Speed Class 3 (U3)" when recording motion pictures with [MP4] in [C4K] [4K], [MOV], [VFR] or [4K PHOTO].
 - NOTE (SD speed class is the speed standard regarding continuous writing.)
 - NOTE - Video Speed Class 60 or higher is required for ALL-Intra 400Mbps recording. Use of SD Memory Card with Video Speed Class 60 or higher is recommended for C4K/4K ALL-Intra video recording.
 - NOTE - MP4 motion pictures with [MP4] in [C4K] [4K]:
 - NOTE - When using an SDHC memory card: You can continue recording without interruption even if the size exceeds 4 GB, but the motion picture file will be divided and recorded/played back separately.
 - NOTE - When using an SDXC memory card: You can continue recording without interruption even if the size exceeds 96 GB or 3 hours 4 minutes in length, but the motion picture file will be divided and recorded/played back separately.
 - NOTE - MP4 motion pictures with [MP4] in [FHD]:
 - NOTE - You can continue recording without interruption even if the file size exceeds 4 GB or 30 minutes in length, but the motion picture file will be divided and recorded/played back separately.
 - NOTE - 4:2:2 10-bit recording is a recording mode for film production and the video needs to be processed on a PC.
 - NOTE The original video cannot be played on standard TV, Blu-ray Disc™ recorder and Blu-ray Disc™ player.
 - NOTE It may cause problems such as freezing when played on these devices.
 - NOTE *** For [C4K/60p] [C4K/50p] [4K/60p] [4K/50p] video output, use an HDMI2.0 cable that has the HDMI logo on it, and that is described as "4K compatible".
 - NOTE **** The camera may stop recording when used in lower or higher than recommended operating temperature: -10 to 40 degrees.
 - NOTE ***** Firmware must be updated to the latest version 1.1.
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- - **UPC885170328266**
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