

# Specification

## Lens

### Lens Mount

E-mount

### Lens compatibility

Sony E-mount lenses

## Sensor

### Sensor Type

APS-C

### Sensor

APS-C type (23.5 x 15.6 mm) Exmor® CMOS sensor

### Number Of Pixels (Effective)

Approx. 24.2 megapixels

### Number of Pixels (total)

Approx. 25.0 megapixels

### Image Sensor Aspect Ratio

3:2

### Anti-Dust System

Charge protection coating on Optical Filter and ultrasonic vibration mechanism

## Recording (still images)

### Recording Format (Still images)

JPEG (DCF Ver. 2.0, Exif Ver. 2.3, MPF Baseline compliant),

RAW (Sony ARW 2.3 format)

### Image Size (pixels), 3:2

L: 6000 x 4000 (24M), M: 4240 x 2832 (12M), S: 3008 x 2000 (6.0M)

### Image Size (pixels), 16:9

L: 6000 x 3376 (20M), M: 4240 x 2400 (10M), S: 3008 x 1688 (5.1M)

### **Image Size (pixels), Sweep Panorama**

Wide: horizontal 12,416 x 1,856 (23M), vertical 5,536 x 2,160 (12M), Standard: horizontal 8,192 x 1,856 (15M), vertical 3,872 x 2,160 (8.4M)

### **Image Quality Modes**

RAW, RAW & JPEG, JPEG Extra fine, JPEG Fine, JPEG Standard

### **RAW Output**

14 bit

### **Picture Effect**

13 modes: Posterisation (Colour, B/W), Pop Colour, Retro Photo, Partial Colour (R, G, B, Y), High Contrast Monochrome, Toy Camera, Soft High-key, Soft Focus, HDR Painting, Rich-tone Monochrome, Miniature, Watercolor, Illustration

### **Creative Style**

Standard, Vivid, Neutral, Clear, Deep, Light, Portrait, Landscape, Sunset, Night Scene, Autumn Leaves, Black & White, Sepia (Contrast -3 to +3 steps, Saturation -3 to +3 steps, Sharpness -3 to +3 steps) (Style Box 1-6 also provided)

### **Dynamic Range Functions**

Off, Dynamic Range Optimiser (Auto/Level (1-5)), Auto High Dynamic Range: Auto Exposure Difference, Exposure Difference Level (1.0-6.0 EV, 1.0 EV step)

### **Colour Space**

sRGB standard (with sYCC gamut) and Adobe RGB standard compatible with TRILUMINOS<sup>®</sup>,<sup>™</sup> Colour

### **Recording (movie)**

### **Recording Format (Movie)**

XAVC S / AVCHD format Ver. 2.0 compliant / MP4

### **Video Compression**

XAVC S: MPEG-4 AVC/H.264, AVCHD: MPEG-4 AVC/H.264,  
MP4: MPEG-4 AVC/H.264

### **Audio Recording Format**

XAVC S: LPCM 2ch, AVCHD: Dolby® Digital (AC-3) 2ch,  
Dolby Digital Stereo Creator, MP4: MPEG-4 AAC-LC 2ch

### **Image Size (Pixels), NTSC**

XAVC S 4K: 3840 x 2160 (30p/100 Mbps, 30p/60 Mbps, 24p/100 Mbps, 24p/60 Mbps), XAVC S HD: 1920 x 1080 (60p/50 Mbps, 30p/50 Mbps, 24p/50 Mbps, 120p/100 Mbps, 120p/60 Mbps), AVCHD: 1920 x 1080 (60p/28 Mbps/PS, 60i/24 Mbps/FX, 60i/17 Mbps/FH, 24p/24 Mbps/FX, 24p/17 Mbps/FH), MP4: 1920 x 1080 (60p/28 Mbps, 30p/16 Mbps), 1280 x 720 (30p/6 Mbps)

### **Image Size (pixels), PAL**

XAVC S 4K: 3840 x 2160 (25p/100 Mbps, 25p/60 Mbps), XAVC S HD: 1920 x 1080 (50p/50 Mbps, 25p/50 Mbps, 100p/100 Mbps, 100p/60 Mbps), AVCHD: 1920 x 1080 (50p/28 Mbps/PS, 50i/24 Mbps/FX, 50i/17 Mbps/FH, 25p/24 Mbps/FX, 25p/17 Mbps/FH), MP4: 1920 x 1080 (50p/28 Mbps, 25p/16 Mbps), 1280 x 720 (25p/6 Mbps)

### **High Frame Rate Recording**

NTSC: 1920 x 1080 (24p/12 Mbps, 30p/16 Mbps), PAL: 1920 x 1080 (25p/16 Mbps)

### **Picture Profile**

Yes (Off / PP1-PP9) Parameters: Black level, Gamma (Movie, Still, Cine1-4, ITU709, ITU709 [800%], S-Log2, S-Log3), Black Gamma, Knee, Colour Mode (Movie, Still, Cinema, Pro, ITU709 Matrix, White&Black, S-Gamut, S-Gamut3.Cine, S-Gamut3), Saturation, Colour Phase, Colour Depth, Detail, Copy, Reset

### **Movie Functions**

Audio Level Display, Audio Rec Level, Auto Slow Shutter, HDMI info. Display (On/Off selectable), Time Code/User Bit, Picture Profile, Creative Style, Picture Effect, Rec Control, Dual Video Rec, Marker Setting, PAL/NTSC Selector, Gamma Display Assist

### **Colour Space**

xvYCC standard (x.v.Colour when connected via HDMI cable)  
compatible with TRILUMINOS<sup>®</sup>, 4:2:2 Colour

## **Clean HDMI Output**

### **Clean HDMI output**

NTSC: 3840 x 2160 (30p/24p) / 1920 x 1080 (60p/24p) / 1920 x 1080 (60i), YCbCr 4:2:2 8bit/ RGB 8bit, PAL: 3840 x 2160 (25p) / 1920 x 1080 (50p) / 1920 x 1080 (50i), YCbCr 4:2:2 8bit/ RGB 8bit

## **Storage Media**

### **Compatible Recording Media**

Memory Stick PRO Duo<sup>™</sup>, Memory Stick PRO-HG Duo, Memory Stick Micro<sup>™</sup> (M2), SD memory card, SDHC memory card (UHS-I compliant), SDXC memory card (UHS-I compliant), microSD memory card, microSDHC memory card, microSDXC memory card

### **Storage Media Slot**

Multi slot for Memory Stick Duo<sup>™</sup>/ SD memory card

## **Noise Reduction**

### **Noise Reduction**

Long exposure NR: On/Off, available at shutter speeds longer than 1 sec., High ISO NR: Normal/Low/Off selectable

### **Multi Frame NR**

Auto/ ISO 100 to 51200

## **White balance**

### **White Balance Modes**

Auto WB / Daylight / Shade / Cloudy / Incandescent / Fluorescent (Warm White / Cool White / Day White / Daylight) / Flash / Colour Temperature (2500 to 9900K) & Colour Filter (G7 to M7: 57 steps, A7 to B7: 29 steps) / Custom / Underwater

**AWB Micro Adjustment**

G7 to M7 (57 steps), A7 to B7 (29 steps)

**Bracketing**

3 frames, H/L selectable

**Focus****Focus Type**

Fast Hybrid AF(phase-detection AF/contrast-detection AF)

**Focus Point**

425 points (phase-detection AF)/169 points (Contrast-detection AF)

**Focus Sensitivity Range**

EV-1 to EV20 (ISO100 equivalent with F2.0 lens attached)

**AF Mode**

Automatic AF (AF-A), Single-shot AF (AF-S), Continuous AF (AF-C), Direct Manual Focus (DMF), Manual Focus

**Focus Area**

Wide (425 points (phase-detection AF), 169 points(contrast-detection AF)) / Zone / Centre / Flexible Spot (S/M/L) /Expanded Flexible Spot/ Lock-on AF ( Wide / Zone / Centre / Flexible Spot (S/M/L)/Expanded Flexible Spot)

**Focus type with LA-EA3**

Phase-detection/contrast-detection selectable [2](#)

**Other Features**

Lock-on AF, Eye AF, Focus lock; Eye-Start AF and AF micro adjustment (both only available with optional LA-EA2 or LA-EA4 attached), AF illuminator (built-in, LED type, range: Approx. 0.30-3 m), AF ON

**Exposure****Metering Type**

1200-zone evaluative metering

**Metering Sensor**

Exmor® CMOS sensor

**Metering Sensitivity**

EV-2 to EV20 (at ISO100 equivalent with F2.0 lens attached)

**Metering Mode**

Multi-segment, Centre-weighted, Spot

**Exposure Modes**

Auto (iAuto, Superior Auto), Programmed AE (P), Aperture priority (A), Shutter-speed priority (S), Manual (M), Scene Selection, Sweep Panorama, Movie/High Frame Rate (Programmed AE (P) / Aperture priority (A) / Shutter-speed priority (S) / Manual (M))

**Scene Selection**

Portrait, Landscape, Macro, Sports Action, Sunset, Night Portrait, Night Scene, Hand-held Twilight, Anti Motion Blur

**Exposure Compensation**

+/-5.0 EV (in 1/3 EV or 1/2 EV steps)

**Auto (AE) Bracketing**

Bracket: Single/Bracket: Cont., 3/5/9 frames selectable. With 3 or 5 frames, in 1/3, 1/2, 2/3, 1.0, 2.0 or 3.0 EV increments, with 9 frames, in 1/3, 1/2, 2/3 or 1.0 EV increments.

**AE Lock**

Available with AE lock button. Locked when shutter button is pressed halfway. Can be disabled from the Menu.

**ISO Sensitivity (Recommended Exposure Index)**

Still images: ISO 100-25600 (expandable to 51200), AUTO (ISO 100-6400, selectable lower limit and upper limit), Movies: ISO 100–25600 equivalent, AUTO (ISO 100–6400 equivalent, selectable lower limit and upper limit)

**Viewfinder****Viewfinder Type**

XGA OLED, 1.0 cm (0.39 type) electronic viewfinder (colour)

**Number of Dots**

2,359,296 dots

**Brightness Control (Viewfinder)**

Auto/Manual (5 steps between -2 and +2)

**Colour Temperature Control**

Manual (5 steps)

**Field Coverage**

100%

**Magnification**

Approx. 1.07x (35 mm camera equivalent: Approx. 0.70x) with 50 mm lens at infinity, -1 mstyle name="sup"-1/style

**Diopetre Adjustment**

-4.0 to +3.0 mstyle name="sup"-1/style

**Eye Point**

Approx. 23 mm from the eyepiece lens, 21.4 mm from the eyepiece frame at -1 mstyle name="sup"-1/style(CIPA standard)

**Viewfinder Display**

Graphic Display / Display All Info. / No Disp. Info. / Histogram / Digital Level Gauge

**Real-time Image Adjustment Display**

On/Off

**Finder Frame Rate Selection**

Yes (1x, 2x)

**LCD Screen**

**Screen Type**

7.5 cm (3.0-type) wide type TFT

**Total Number of Dots**

921,600 dots

**Brightness Control (LCD)**

Manual (5 steps between -2 and +2), Sunny Weather mode

**Adjustable Angle**

Up approx. 90 degrees, down approx. 45 degrees

**Display Selector (Finder/LCD)**

Auto/Manual

**LCD Display**

Graphic Display / Display All Info. / No Disp. Info. / Histogram /  
Digital Level Gauge / Shooting information for viewfinder mode

**Real-time Image Adjustment Display (LCD)**

On/Off

**Focus Magnifier**

5.9x, 11.7x

**Zebra**

Yes (selectable level + range or lower limit as custom setting)

**Peaking MF**

Yes (Level setting: High/Mid/Low/Off, Colour:  
White/Red/Yellow)

**Other Features**

**Face Detection**

On / On (Regist. Faces) / Off, Face registration, Face selection  
(Max. number of detectable faces: 8)

**Auto Object Framing**

Yes

**Clear Image Zoom**

Still/Movie: Approx. 2x

**Smart zoom (Still Image)**

M: Approx. 1.4x, S: Approx. 2.0x

**Digital zoom (Still Image)**

L: Approx. 4x, M: Approx. 5.7x, S: Approx. 8x

**Digital zoom (Movie)**

Approx. 4x

**PlayMemories Camera Apps™**

Yes

**Lens Compensation**

Peripheral shading, chromatic aberration, distortion

**Zoom Ring Rotate**

Yes

**Image processor**

BIONZ X™



## **Others**

ISO Auto Minimum Shutter Speed, Bright Monitoring, Copyright Info, Set File Name

## **Shutter**

### **Shutter Type**

Electronically controlled, vertical-traverse, focal-plane type

### **Shutter Speed**

Still images: 1/4000 to 30 sec., Bulb, Movies: 1/4000 to 1/4 (1/3 step), NTSC: Up to 1/60 in AUTO mode (up to 1/30 in Auto Slow Shutter mode), PAL: Up to 1/50 in AUTO mode (up to 1/25 in Auto Slow Shutter mode)

### **Flash Sync. Speed**

1/160 s

### **Electronic Front Shutter Curtain**

Yes, On/Off

### **Silent Shooting**

Yes, On/Off

## **Image stabilisation**

### **SteadyShot**

Not supported (image stabilisation supplied by lens)

## **Flash Control**

### **Flash Control**

Built-in flash

### **Guide No.**

6 (in metres at ISO100)

### **Flash coverage**

16 mm (focal-length printed on the lens body)

### **Control**

Pre-flash TTL

### **Flash Compensation**

+/-3.0 EV (switchable between 1/3 and 1/2 EV steps)

### **Flash Compensation**

3/5/9 frames selectable. With 3 or 5 frames, in 1/3, 1/2, 2/3, 1.0, 2.0, 3.0 EV increments, with 9 frames, in 1/3, 1/2, 2/3, 1.0 EV increments.

### **Flash Modes**

Flash off, Autoflash, Fill-flash, Rear Sync., Slow Sync., Red-eye reduction (On/Off selectable), Hi-speed sync [3](#), Wireless [3](#)

### **Recycling Time**

Approx. 4 s

### **External Flash Compatibility**

Sony  $\hat{\pm}$  System Flash compatible with Multi Interface Shoe. Attach the shoe adaptor for flash compatible with Auto-lock Accessory Shoe.

### **FE Level Lock**

Yes

### **Wireless Control**

Yes (wireless flash with lightning ratio control)

## **Drive**

### **Drive Modes**

Single shooting, Continuous shooting (Hi+/Hi/Mid/Lo selectable), Self-timer, Self-timer (Cont.), Bracketing (Cont., Single, White Balance, DRO)

### **Self-Timer**

10 sec. delay/5 sec. delay/2 sec. delay/Continuous self-timer (3 frames after 10 sec. delay/5 frames after 10 sec. delay/3 frames after 5 sec. delay/5 frames after 5 sec. delay/3 frames after 2 sec. delay/5 frames after 2 sec. delay)/Bracketing self-timer (Off/2 sec. delay/5 sec. delay/10 sec. delay)

### **Speed (approx. max.)**

Continuous mode: 11fps (Hi+), 8fps (Hi), 6fps (Mid), 3fps (Lo) [4](#)

### **No. of recordable frames (approx.)**

44 frames (JPEG Extra fine L), 47 frames (JPEG Fine L), 55 frames (JPEG Standard L), 21 frames (RAW), 21 frames (RAW&JPEG) [4](#)

## **Playback**

### **Playback Modes**

Single (with or without shooting information, Y RGB histogram & highlight/shadow warning), 12/30-frame index view, Enlarged display mode (Maximum magnification L: 16.7x, M: 11.8x, S: 8.3x), Auto Review (10/5/2 sec, off), Image orientation (Auto/Manual/Off selectable), Slideshow, Panorama scrolling, Folder selection (Still / Date / MP4 / AVCHD / XAVC S HD / XAVC S 4K), Forward/Rewind (Movie), Delete, Protect

## **Interface**

### **PC Interface**

Mass-storage, MTP, PC remote

### **Multi / Micro USB Terminal**

Yes [5](#)

### **Wireless LAN (Built-In)**

Wi-Fi® Compatible, IEEE802.11b/g/n (2.4 GHz band) [6](#) Playback of still images and movies on smartphones, PCs and TVs

### **NFC™**

Yes (NFC Forum Type 3 Tag compatible, One-touch remote, One-touch sharing)

### **HD Output**

HDMI micro connector (Type-D), BRAVIA® Sync (link menu), PhotoTV HD, 4K movie output, 4K still image playback

### **Multi Interface Shoe**

Yes

### **Others**

Microphone terminal (3.5mm Stereo minijack)

## **Audio**

**Microphone**

Built-in stereo microphone or XLR-K2M / XLR-K1M / ECM-XYST1M (sold separately)

**Speaker**

Built-in, monaural

**Print****Compatible Standards**

Exif Print, Print Image Matching III, DPOF setting

**Custom function****Custom Function Type**

Custom key settings, Programmable setting

**Memory Function**

Yes (2 sets)

**Power****Supplied Battery**

Rechargeable battery pack NP-FW50

**Battery Life (Still Images)**

Approx. 350 shots (viewfinder) / Approx. 400 shots (LCD screen) (CIPA standard)

**Battery Life (CIPA, Movies)**

Actual [7](#) [8](#): Approx. 70 min. (viewfinder) / Approx. 75 min. (LCD screen) (CIPA standard), Continuous [7](#) [9](#): Approx. 115 min. (viewfinder) / Approx. 115 min. (LCD screen) (CIPA standard)

**External Power**

AC Adaptor AC-PW20 (sold separately)

**Size & Weight****Dimensions (W x H x D)**

Approx. 120 x 66.9 x 48.8 mm

**Weight (with battery and memory card included)**

Approx. 361 g (body only)/Approx. 404 g (with battery and  
Memory Stick PRO Duo™)

## **Others**

### **Operating Temperature**

0–40 °C/32 °–104 °F

### **Wi-Fi®**

### **Wireless and network capabilities**

NFC One-touch functionality