

## Specifications

### Sensor

#### Number of Pixels (Effective)

Approx. 20.1 Megapixels

#### Sensor Type

1.0-type (13.2mm x 8.8mm) Exmor RS CMOS sensor, aspect ratio 3:2

### Lens

#### Lens type

ZEISS Vario-Sonnar T\* Lens, 10 elements in 9 groups (9 aspheric elements including AA lens)

#### Clear Image Zoom (Movie)

4K: 4.35x, HD: Approx. 5.8x <sup>1</sup>

#### Optical Zoom

2.9x

#### ANGLE OF VIEW (35MM FORMAT EQUIVALENT) (STILL IMAGE)

84deg.-34deg.(f=24-70mm <sup>2</sup>) <sup>3</sup>

#### Focal length (f=)

f=8.8-25.7mm

#### Digital Zoom (Still Image)

20M Approx.11x / 10M Approx.16x / 5.0M Approx.23x / VGA Approx.44x <sup>1</sup>

#### ND Filter

Auto / On(3 steps) / Off

#### Focus Range (From the Front of the Lens)

iAuto: AF (W: Approx. 5cm (0.17 ft.) to Infinity, T: Approx. 30cm (0.99 ft.) to Infinity) /

Program Auto: AF (W: Approx. 5cm (0.17 ft.) to Infinity, T: Approx.30cm (0.99 ft.) to Infinity)

#### F-number (Maximum Aperture)

F1.8(W)-2.8(T)

#### Digital Zoom (Movie)

Digital Zoom Approx. 11x <sup>1</sup>

#### Clear Image Zoom (Still Image)

20M Approx. 5.8x / 10M Approx. 8.2x / 5.0M Approx. 11x / VGA Approx. 44x <sup>1</sup>

### Screen

#### Screen Type

7.5cm(3.0type)(4:3) / 1,228,800 dots / Xtra Fine / TFT LCD

#### Adjustable Angle

Up by approx. 180 degrees, down by approx. 45 degrees

#### MF Assist Magnification

5.3x, 10.7x

#### Display Selector (Finder/Lcd)

Auto/ EVF(Manual)/ Monitor(Manual)

## Viewfinder

### Field Coverage

100%

### Magnification

Approx. 0.59x with 50mm lens at infinity,  $-1\text{m}^{-1}$ (diopter) (35mm equiv.)

### Dioptr Adjustment

$-4.0$  to  $+3.0\text{m}^{-1}$

### Screen Type/Number of Dots

0.39-type electronic viewfinder(OLED), 2,359,296 dots

### Brightness Control

Auto, Manual(5steps)

### Eye Point

Approx.20mm from the eyepiece, 19.2mm from the eyepiece frame at  $-1\text{m}^{-1}$ (diopter) (CIPA standard)

## Camera

### Continuous Shooting Speed (maximum) (with max. recording pixels)

Continuous Shooting Hi: approx. 24 fps, Continuous Shooting Mid: approx. 10 fps, Continuous Shooting Low: approx. 3.5 fps [4](#) [5](#) [6](#)

### Number of Recognised Scenes

Still Image:Superior Auto: 44 / iAuto: 33, Movie:44

### Focus Area

Wide (315 points (phase-detection AF), 25 points(contrast-detection AF)), Zone, Center, Flexible Spot (S/M/L), Expanded Flexible Spot, Lock on AF(Wide/Zone/Center/Flexible Spot(S/M/L)/Expanded Flexible Spot)

### Shooting Mode

AUTO(Intelligent Auto/Superior Auto), Program Auto, Aperture Priority, Shutter Speed Priority, Manual Exposure, MR(Memory Recall) [body 3 sets / memory card 4 sets], Movie Mode(Program Auto, Aperture Priority, Shutter Speed Priority, Manual Exposure),HFR Mode(Program Auto, Aperture Priority, Shutter Speed Priority, Manual Exposure), Panorama, Scene Selection

### Steadyshot

Optical

### Steadyshot (For Movie)

Yes (Intelligent Active Mode, Optical type with electronic compensation, Anti Rolling type)

### Creative Style

Standard, Vivid, Neutral, Clear, Deep, Light, Portrait, Landscape, Sunset, Night Scene, Autumn Leaves, Black & White, Sepia, Style Box

### Focus Mode

Single-shot AF, Automatic AF, Continuous AF, DMF, Manual Focus

### WB Micro Adjustment

Yes

### ISO Sensitivity (Movie)

Auto:(ISO125Level-ISO12800Level, selectable with upper / lower limit),  
125/160/200/250/320/400/500/640/800/1000/1250/1600/2000/2500/3200/4000/5000/6400/8000/  
10000/12800

### **Electronic Shutter**

iAuto(4" - 1/32000) / Program Auto(30" - 1/32000) / Manual(30" - 1/32000) / Aperture  
Priority(30" - 1/32000) / Shutter Priority(30" - 1/32000)

### **Drive Modes**

Single, Continuous shooting(Hi/Mid/Lo), Self-timer, Self-timer(cont.), Cont.-bracketing [7](#),  
Single-bracketing [7](#), White balance bracketing [7](#), DRO bracketing [7](#)

### **Focus Type**

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

### **Shutter Speed**

iAuto(4" - 1/2000) / Program Auto(30" - 1/2000) / Manual(Bulb, 30" - 1/2000) / Aperture  
Priority(30" - 1/2000) / Shutter Priority(30" - 1/2000) [8](#)

### **Scene Selection**

Portrait, Sports Action, Macro, Landscape, Sunset, Night Scene, Handheld Twilight, Night  
Portrait, Anti Motion Blur, Pet Mode, Gourmet, Fireworks, High Sensitivity

### **Dynamic Range Functions**

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

### **Light Metering Mode**

Multi Pattern, Center Weighted, Spot, Entire Screen Avg, Highlight

### **Picture Profile**

off/PP1-PP7(Black Level, Gamma(Movie, Still, Cine1-2, ITU709, ITU709 [800%], S-Log2),  
Black Gamma, Knee, Color Mode, Saturation, Color Level, Color Phase, Color Depth, Detail,  
Copy, Reset)

### **LOCK ON AF**

Yes

### **Picture Effect**

[Still Image]:Toy camera, Pop Color, Posterization, Retro Photo, Soft High-key, Partial Color,  
High Contrast Mono., Soft Focus, HDR Painting, Richtone Monochrome, Miniature, Watercolor,  
Illustration; [Movie]:Toy camera, Pop Color, Posterization, Retro Photo, Soft High-key, Partial  
Color, High Contrast Mono.

### **Panorama (Shooting)**

Sweep Panorama

### **Noise Reduction**

Long exposure NR:On/Off, available of shutter speeds longer than 1/3 sec., high ISO  
NR:Normal/Low/Off, Multi Frame NR: Auto, ISO200-25600

### **Image Control**

Contrast, Saturation, Sharpness, Creative Style, Color Space(sRGB / Adobe RGB),  
Quality(RAW / RAW&JPEG ( Extra fine, Fine, Standard) / JPEG ( Extra fine, Fine, Standard)

### **Self-Timer**

10sec. / 5sec. / 2sec. / 3 or 5 consecutive shots with 10sec. 5sec. or 2sec. delay selectable /  
Bracketing shots with 10sec. 5sec. or 2sec. delay selectable

### **White Balance Modes**

Auto, Daylight, Shade, Cloudy, Incandescent, Fluor.: Warm White, Fluor.: Cool White, Fluor.: Day White, Fluor.: Daylight, Flash, Underwater Auto, C.Temp./Filter, Custom

**ISO Sensitivity (Still Image)(Recommended Exposure Index)**

Auto(ISO125-12800, selectable with upper / lower limit),125/160/200/250/320/400/500/640/800/1000/1250/1600/2000/2500/3200/4000/5000/6400/8000/10000/12800 (Extendable to ISO80/100),Multi-Frame NR:Auto(ISO125-12800), 200/400/800/1600/3200/6400/12800/25600 [9](#) [10](#)

**Minimum Illumination (Movie)**

Auto:1.2lux(Shutter Speed 1/30")

**Image Processing Engine**

Yes (BIONZ X)

**Aperture**

iAuto(F1.8/F11(W)) / Program Auto(F1.8/F11(W)) / Manual(F1.8/F11(W)) / Shutter Priority(F1.8/F11(W)) / Aperture Priority(F1.8/F11(W))

**Exposure Compensation**

+/- 3.0EV, 1/3EV step

**Flash**

**Flash Type**

Built-in, manual pop-up

**Bracketing**

Yes

**Flash Range**

ISO Auto: Approx.0.4m to 10.2m (1.31 ft. to 33.46 ft.) (W) / Approx. 0.4m to 6.5m (1.31 ft. to 21.33 ft.) (T), ISO12800: up to Approx. 20.4m (66.93 ft.) (W) / Approx. 13.0m (42.65 ft.) (T)

**AF Illuminator**

Auto / Off

**Flash Mode**

Auto / Flash On / Slow Synchro / Rear Sync / Flash Off

**Recording**

**Colour Space (Still)**

sRGB, Adobe RGB

**Proxy Recording**

Yes(1280 x 720(Approx.9Mbps))

**Still Image Number of recorded pixels (Image Size)**

3:2mode:20M(5,472×3,648) / 10M(3,888×2,592) / 5M(2,736×1,824),4:3mode:18M(4,864×3,648) / 10M(3,648×2,736) / 5M(2,592×1,944) / VGA,16:9mode:17M(5,472×3,080) / 7.5M(3,648×2,056) / 4.2M(2,720×1,528),1:1mode:13M(3,648×3,648) / 6.5M(2,544×2,544) / 3.7M(1,920×1,920),Sweep Panorama:Wide(12,416×1,856/5,536×2,160),Standard(8,192×1,856/3,872×2,160)

**Recording Format**

[Still Image]:JPEG(DCF Ver.2.0,Exif Ver.2.31,MPF Baseline compliant), RAW (Sony ARW 2.3 format); [Movie]:XAVC S, AVCHD format Ver.2.0 compatible

## Compatible Recording Media

Memory Stick Duo [11](#), Memory Stick PRO Duo [11](#), Memory Stick PRO Duo(High Speed) [11](#), Memory Stick PROHG Duo [11](#), Memory Stick Micro [12 11](#), Memory Stick Micro (Mark2) [12 11](#), SD Memory Card [11](#), SDHC Memory Card(UHS-I) [11](#), SDXC Memory Card(UHS-I) [11](#), microSD Memory Card [12 11](#), microSDHC Memory Card [12 11](#), microSDXC Memory Card [12 11](#)

## HFR

(Recording) NTSC/PAL Selector: [PAL] mode XAVC S HD:50p 50M(1,920x1,080/250fps), 50p 50M(1,920x1,080/500fps), 50p 50M(1,920x1,080/1000fps) / 25p 50M(1,920x1,080/250fps), 25p 50M(1,920x1,080/500fps), 25p 50M(1,920x1,080/1000fps), NTSC/PAL Selector: [NTSC] mode XAVC S HD:60p 50M(1,920x1,080/240fps), 60p 50M(1,920x1,080/480fps), 60p 50M(1,920x1,080/960fps) / 30p 50M(1,920x1,080/240fps), 30p 50M(1,920x1,080/480fps), 30p 50M(1,920x1,080/960fps) / 24p 50M(1,920x1,080/240fps), 24p 50M(1,920x1,080/480fps), 24p 50M(1,920x1,080/960fps) (Sensor Readout Number of effective pixels) Quality Priority:240fps/250fps(1,824x1,026),480fps/500fps(1,824x616),960fps/1000fps(1,244x420)/Shot Time Priority:240fps/250fps(1,824x616),480fps/500fps(1,292x436),960fps/1000fps(912x308)

## Movie Recording Mode (NTSC)

NTSC/PAL Selector: [NTSC] AVCHD: 24M FX(1,920x1,080/60i) / 17M FH(1,920x1,080/60i), XAVC S 4K: 30p 100M(3,840x2,160/30p) / 30p 60M(3,840x2,160/30p) / 24p 100M(3,840x2,160/24p) / 24p 60M(3,840x2,160/24p), XAVC S HD:60p 50M(1,920x1,080/60p) / 60p 25M(1,920x1,080/60p) / 30p 50M(1,920x1,080/30p) / 30p 16M(1,920x1,080/30p) / 24p 50M(1,920x1,080/24p) / 120p 100M(1,920x1,080/120p) / 120p 60M(1,920x1,080/120p)

## Still Image Number of recorded pixels (Image Size) during Movie

16:9mode:17M(5,472×3,080) / 7.5M(3,648×2,056) / 4.2M(2,720×1,528)

## Movie Recording Mode (PAL)

NTSC/PAL Selector: [PAL] mode AVCHD: 24M FX(1,920x1,080/50i) / 17M FH(1,920x1,080/50i), XAVC S 4K: 25p 100M(3,840x2,160/25p) / 25p 60M(3,840x2,160/25p), XAVC S HD:50p 50M(1,920x1,080/50p) / 50p 25M(1,920x1,080/50p) / 25p 50M(1,920x1,080/25p) / 25p 16M(1,920x1,080/25p) / 100p 100M(1,920x1,080/100p) / 100p 60M(1,920x1,080/100p),

## DCF/DPOF

DCF/DPOF/EXIF/MPF

## Recording Format (Movie Audio)

XAVC S:LPCM 2ch, AVCHD:Dolby Digital(AC-3) 2ch(Dolby Digital Stereo Creator)

## Interface

### NFC

NFC forum Type 3 Tag compatible, One-touch remote, One-touch sharing

### WI-FI

Yes(IEEE802.11b/g/n(2.4GHz band))

### Input and Output Terminals

Multi/Micro USB Terminal [13](#), Hi-Speed USB (USB2.0), Micro HDMI

## Power

### Power Source

DC3.6V(supplied battery) / DC5.0V(supplied AC Adaptor)

**BATTERY LIFE(STILL IMAGES)(CIPA)**

Monitor:Approx. 220 / Approx. 110min., ViewFinder:Approx. 210 / Approx. 105min. [14](#)

**BATTERY LIFE(MOVIES ACTUAL SHOOTING)(CIPA)**

Monitor:Approx. 35min., ViewFinder:Approx. 35min. [15](#) [16](#) [17](#)

**USB Charge/USB Power Supply**

Yes (Shooting, Playback)

**Power Consumption (Camera Mode)**

Approx. 2.6W with LCD monitor and approx. 3.0W with viewfinder(CIPA standard)

**BATTERY LIFE(MOVIES CONTINUOUS SHOOTING)(CIPA)**

Monitor:Approx. 65min., ViewFinder:Approx. 65min. [15](#) [16](#)

**Battery System**

Rechargeable Battery Pack NP-BX1

**Others**

**Playback Functions**

BRAVIA Sync(Control for HDMI), 9/25-frame index view, Auto Orientation, Slide Show, Forward/Rewind (Movie), Delete, Protect, Motion Shot Video, Beauty Effect, Photo Capture, Rating, Automatic Image Rotation

**Shooting Functions**

Eye AF, Face Detection, Face Registration, Still Image Recording (during movie recording), Smile shutter, Grid Line, Quick Navi, Digital Level Gauge (pitch and roll), WB Bracket, DRO Bracketing, MF Assist, Peaking, Zebra, Marker Display, Micref Level, Step Zoom / Quick Zoom, Self-portrait timer, TC/UB, Photographer Name & Copyright, ISO Auto Minimum Shutter Speed, PC Remote Control, Gamma Disp. Assist, [Mov]AF Track Sensitivity, [Mov]AF Drive Speed, Set File Name, My Menu

**TRILUMINOS Color**

Yes [18](#)

**4K image output**

Yes

**Operating Temperature**

0 degrees C. - +40 degrees C. / 32 degrees F. - 104 degrees F.

**Playmemories Camera Apps**

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**Print**

**Print**

Exif Print, PRINT Image Matching (PIM3)

**Size & Weight**

**DIMENSIONS (W X H X D) (APPROX.)**

101.6x58.1x41.0 mm(4 in. × 2 3/8 in. × 1 5/8 in.)

**WEIGHT (CIPA COMPLIANT)**

Approx. 299g (10.5oz.)(Battery and Memory Stick Duo are included) / Approx. 272g (9.6oz.)(Body Only)