

# Clifton Cameras Product Specification

## Sony Alpha A9 Digital Camera Body

### Specifications

#### Lens

LENS COMPATIBILITY: Sony E-mount lenses

LENS MOUNT: E-mount

#### Image Sensor

ASPECT RATIO: 3:2

NUMBER OF PIXELS (EFFECTIVE): Approx. 24.2 megapixels

NUMBER OF PIXELS (TOTAL): Approx. 28.3 megapixels

TYPE: 35mm full frame (35.6x23.8mm), Exmor RS CMOS sensor

ANTI-DUST SYSTEM: Charge protection coating on optical filter and image sensor shift mechanism

#### Recording (still images)

RECORDING FORMAT: JPEG (DCF Ver. 2.0, Exif Ver.2.31, MPF Baseline compliant), RAW (Sony ARW 2.3 format)

IMAGE SIZE (PIXELS) [3:2]: 35mm full frame L: 6000 x 4000 (24M), M: 3936 x 2624 (10M), S: 3008 x 2000 (6.0M), APS-C L: 3936 x 2624 (10M), M: 3008 x 2000 (6.0M), S: 1968 x 1312 (2.6M)

IMAGE SIZE (PIXELS) [16:9]: 35mm full frame L: 6000 x 3376 (20M), M: 3936 x 2216 (8.7M), S: 3008 x 1688 (5.1M), APS-C L: 3936 x 2216 (8.7M), M: 3008 x 1688 (5.1M), S: 1968 x 1112 (2.2M)

IMAGE SIZE (PIXELS) [SWEEP PANORAMA]: -

IMAGE QUALITY MODES: JPEG Extra fine, JPEG Fine, JPEG Standard, RAW, RAW & JPEG

PICTURE EFFECT: Posterization (Color), Posterization (B/W), Pop Color, Retro Photo, Partial Color (R/G/B/Y), High Contrast Monochrome, Toy Camera(Normal/Cool/Warm/Green/Magenta), Soft High-key

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

PICTURE PROFILE: -

DYNAMIC RANGE FUNCTIONS: Off, Dynamic Range Optimizer (Auto/Level (1-5)), Auto High Dynamic Range (Auto Exposure Difference, Exposure Difference Level (1-6 EV, 1.0 EV step))

COLOUR SPACE: sRGB standard (with sYCC gamut) and Adobe RGB standard compatible with TRILUMINOS Color



14BIT RAW: Yes

UNCOMPRESSED RAW: Yes

Recording (movie)

RECORDING FORMAT: XAVC S, AVCHD format Ver. 2.0 compliant, MP4

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

COLOUR SPACE: xvYCC standard (x.v.Color when connected via HDMI cable)  
compatible with TRILUMINOS Color

PICTURE EFFECT: 8 types: Posterization (Color), Posterization (B/W), Pop Color, Retro Photo, Partial Color (R/G/B/Y), High Contrast Monochrome, Toy Camera(Normal/Cool/Warm/Green/Magenta), Soft High-key , Rich-tone Monochrome

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

PICTURE PROFILE: -

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

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

IMAGE FRAME RATE: NTSC mode: 1fps, 2fps, 4fps, 8fps, 15fps, 30fps, 60fps, 120fps, PAL mode: 1fps, 2fps, 3fps, 6fps, 12fps, 25fps, 50fps, 100fps

MOVIE FUNCTIONS: Audio Level Display, Audio Rec Level, PAL/NTSC Selector, Dual Video REC, TC/UB, (TC Preset/UB Preset/TC Format/TC Run/TC Make/UB Time Rec), AF Tracking Duration, AF Drive SpeedAuto, Slow Shutter, REC Control, Clean HDMI Info.(ON/OFF selectable)

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

Recording System

LOCATION INFORMATION LINK FROM SMARTPHONE: Yes

MEDIA: Memory Stick PRO Duo, Memory Stick PRO-HG Duo, Memory Stick Micro(M2), SD memory card, SDHC memory card (UHS-I/II compliant), SDXC memory card (UHS-I/II compliant), microSD memory card, microSDHC memory card, microSDXC memory card

MEMORY CARD SLOT: SLOT1 : Slot for SD(UHS-I/II compliant) memory card, SLOT2 : Multi slot for Memory Stick Duo/SD(UHS-I compliant) memory card

RECORDING MODE ON 2 MEMORY CARDS: Simult. Rec (Still), Simult. Rec (Movie), Simult. Rec (Still/Movie), Sort (JPEG/RAW), Sort (Still/Movie), Copy



#### Noise Reduction

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

**MULTI FRAME NR:** -

#### White Balance

**WHITE BALANCE MODES:** Auto / Daylight / Shade / Cloudy / Incandescent / Fluorescent (Warm White / Cool White / Day White / Daylight) / Flash /Underwater/ Color Temperature (2500 to 9900K) & color filter (G7 to M7(57-step), A7 to B7(29-step)) / Custom

**AWB MICRO ADJUSTMENT:** Yes(G7 to M7,57-step)(A7 to B7,29-step)

**PRIORITY SET IN AWB:** Yes

**BRACKETING:** 3 frames, H/L selectable

#### Focus

**FOCUS TYPE:** Fast Hybrid AF(phase-detection AF/contrast-detection AF)1

**FOCUS SENSOR:** Exmor RS CMOS sensor

**FOCUS POINT:** 35mm full frame: 693 points (phase-detection AF), APS-C mode with FF lens: 299 points (phase-detection AF), with APS-C lens: 221 points (phase-detection AF) / 25 points (contrast-detection AF)

**FOCUS SENSITIVITY RANGE:** EV-3 to EV20 (ISO100 equivalent with F2.0 lens attached)

**FOCUS MODE:** AF-S (Single-shot AF), AF-C ( Continuous AF), DMF (Direct Manual Focus), Manual Focus

**FOCUS AREA:** Wide (693 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)

**OTHER FEATURES:** Eye-start AF (only with LA-EA2 or LA-EA4 attached(Sold separately)), Lock-on AF, Eye AF, AF micro adjustment, (Sold separately), with LA-EA2 or LA-EA4, Predictive control, Focus lock, AF Track Sens, Swt.V/H AF Area, AF Area Regist.

**AF ILLUMINATOR:** Yes (with Built-in LED type)

**AF ILLUMINATOR RANGE:** Approx. 0.3m - approx. 3.0m (with FE 28-70mm F3.5-5.6 OSS attached)

**FOCUS TYPE WITH LA-EA3 (SOLD SEPARATELY):** selectable (phase-detection, contrast-detection)

#### Exposure

**METERING TYPE:** 1200-zone evaluative metering

**METERING SENSOR:** Exmor RS CMOS sensor

**METERING SENSITIVITY:** EV-3 to EV20 (at ISO100 equivalent with F2.0 lens attached)

**METERING MODE:** Multi-segment, Center-weighted, Spot, Spot Standard/Large, Entire Screen Avg., Highlight



EXPOSURE COMPENSATION: compensation dial : +/- 3EV (1/3 EV steps))	+/- 5.0EV(1/3 EV, 1/2 EV steps selectable), (with exposure compensation dial : +/- 3EV (1/3 EV steps))
EXPOSURE BRACKETING:	Bracket: Cont., Bracket: Single, 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: lock button. (On/Off/Auto)	Locked when shutter button is pressed halfway. Available with AE lock button. (On/Off/Auto)
EXPOSURE MODES:	AUTO(iAuto), Programmed AE (P), Aperture priority (A), Shutter-speed priority (S), Manual (M), Movie (Programmed AE (P) / Aperture priority (A) / Shutter-speed priority (S) / Manual (M) ), Slow & Quick Motion (Programmed AE (P) / Aperture priority (A) / Shutter-speed priority (S) / Manual (M) )
ISO SENSITIVITY (RECOMMENDED EXPOSURE INDEX):	[Still images] Mechanical Shutter: ISO 100-51200 (ISO numbers up from ISO 50 to ISO 204800 can be set as expanded ISO range.), AUTO (ISO 100-6400, selectable lower limit and upper limit), Electronic Shutter: ISO 100-25600 (ISO numbers up from ISO 50 can be set as expanded ISO range.), AUTO (ISO 100-6400, selectable lower limit and upper limit), [Movies] ISO 100-51200 equivalent (ISO numbers up to ISO 102400 can be set as expanded ISO range.), AUTO (ISO 100-6400, selectable lower limit and upper limit)
ANTI-FLICKER SHOOT.:	-
Viewfinder	
VIEWFINDER TYPE:	1.3 cm (0.5 type) electronic viewfinder (color),Quad-VGA OLED
NUMBER OF DOTS:	3 686 400 dots
BRIGHTNESS CONTROL (VIEWFINDER):	Auto/Manual (5 steps between -2 and +2)
COLOR TEMPERATURE CONTROL:	Manual (5 steps)
FIELD COVERAGE:	100%
MAGNIFICATION:	approx. 0.78 x (with 50mm lens at infinity, -1m-1)
DIOPTRE ADJUSTMENT:	-4.0 to +3.0m-1
EYE POINT: frame at -1m-1(CIPA standard)	Approx. 23mm from the eyepiece lens, 18.5mm from the eyepiece
FINDER FRAME RATE SELECTION:	STD 60fps / HI 120fps
DISPLAY CONTENTS: Display, Histogram, No Disp. Info	Digital Level Gauge, Display All Info, For viewfinder, Graphic
LCD Screen	
TYPE:	7.5cm (3.0-type) type TFT
NUMBER OF DOTS:	1,440,000 dots
TOUCH PANEL:	Yes
BRIGHTNESS CONTROL:	Manual (5 steps between -2 and +2), Sunny Weather mode
ADJUSTABLE ANGLE:	Up by approx. 107 degrees, Down by approx. 41 degrees
DISPLAY SELECTER (FINDER/LCD):	Yes (Auto/Manual)



REAL-TIME IMAGE ADJUSTMENT DISPLAY (LCD):	On/Off
QUICK NAVI:	Yes
FOCUS MAGNIFIER:	Yes (35mm full frame: 4.7x, 9.4x, APS-C: 3.1x, 6.2x)
ZEBRA:	Yes (selectable level + range or lower limit as custom setting)
PEAKING MF:	Yes (Level setting: High/Mid/Low/Off, Color: White/Red/Yellow)
OTHERS:	WhiteMagic, Grid Line (Rule of 3rds Grid/Square Grid/Diag. + Square Grid/Off), Movie Marker (Center/Aspect/Safety Zone/Guideframe)
DISPLAY CONTENT: Gauge, Histogram	Graphic Display, Display All Info., No Disp. Info., Digital Level
Other Features	
PLAYMEMORIES CAMERA APPS™:	-
CLEAR IMAGE ZOOM:	Still images:Approx. 2x, Movies:Approx. 2x
DIGITAL ZOOM:	Smart zoom (Still images):35mm full frame: M:approx 1.5x, S:approx 2x, APS-C: M:approx 1.3x, S:approx 2x, Digital zoom (Still images):35mm full frame: L:approx 4x, M:approx 6.1x, S:approx 8x, APS-C: L:approx 4x, M:approx 5.2x, S:approx 8x, Digital zoom (Movie):35mm full frame: approx 4x, APS-C: approx 4x
FACE DETECTION: selection, Max. number of detectable:8	Modes:On/On (Regist. Faces)/Off, Face registration, Face
SELF-PORTRAIT SELF-TIMER:	-
OTHERS:	Touch Focus:Yes (Available with LCD monitor operation), ISO AUTO Min. SS, Bright Monitoring, Set File Name, FTP Transfer Func., Help guide, Area Setting, Shop Front Mode, Video Light Mode, Zoom Ring Rotate
EYE-FI READY:	-2
Shutter	
TYPE:	Electronically-controlled, vertical-traverse, focal-plane type
SHUTTER TYPE:	Auto/Mechanical shutter/Electronic shutter
SHUTTER SPEED:	[Still images, Single shot]3, Mechanical Shutter:1/8000 to 30 sec, Bulb, AUTO: 1/32000 to 30 sec, Bulb, Electronic Shutter: 1/32000 to 30 sec, [Still images, Continuous shooting]3, Mechanical Shutter:1/8000 to 30 sec, AUTO: 1/32000
FLASH SYNC. SPEED:	1/250 sec.4
ELECTRONIC FRONT CURTAIN SHUTTER:	Yes(ON/OFF)
SILENT SHOOTING:	Yes(Electronic Shutter)
Image Stabilization	
TYPE: (Compensation depends on lens specifications)	Image Sensor-Shift mechanism with 5-axis compensation



COMPENSATION EFFECT: 5.0 stops (based on CIPA standard. Pitch/yaw shake only. With Planar T\* FE 50mm F1.4 ZA lens mounted. Long exposure NR off.)

#### Flash Control

TYPE: -

GUIDE NO.: -

FLASH COVERAGE: -

CONTROL: Pre-flash TTL5

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

FLASH BRACKETING: 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, Slow Sync., Rear Sync., Red-eye reduction (on/off selectable), Wireless6, Hi-speed sync.6

EXTERNAL FLASH COMPATIBILITY: Sony  $\alpha$  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(light signal/radio signal)

#### Drive

DRIVE MODES: Single Shooting, Continuous shooting (Hi/Mid/Lo selectable), Self-timer, Self-timer (Cont.), Bracket: Single, Bracket: Cont., White Balance bracket, DRO bracket

CONTINUOUS DRIVE SPEED (APPROX. MAX.): AUTO/Electronic Shutter: Continuous shooting: Hi: max. 20 fps, Mid: max. 10fps, Lo: max. 5 fps 789, Mechanical Shutter: Continuous shooting: Hi: max. 5 fps, Mid: max. 5fps, Lo: max. 2.5 fps10

NO. OF RECORDABLE FRAMES (APPROX.): JPEG Extra fine L: 362 frames10, JPEG Fine L: 362 frames10, JPEG Standard L: 362 frames10, RAW: 241 frames10, RAW&JPG: 222 frames10, RAW(Uncompressed): 128 frames10, RAW(Uncompressed)&JPG: 118 frames10

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

#### Playback

PHOTO CAPTURE: Yes

MODES: Single (with or without shooting information Y RGB histogram & highlight/shadow warning), 9/25-frame index view, Enlarged display mode (L: 15.0x, M: 9.84x, S: 7.52x), Auto Review (10/5/2 sec,Off), Image orientation (Auto/Manual/Off selectable), Slideshow, Folder selection (Date/ Still/ 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: Yes11



NFC™: One-touch sharing	Yes (NFC forum Type 3 Tag compatible), One-touch remote,
WIRELESS LAN (BUILT-IN): Smartphone: Yes, Send to Computer: Yes, View on TV: Yes	Wi-Fi Compatible, IEEE 802.11b/g/n(2.4GHz band) <sup>12</sup> , View on
BLUETOOTH:	Yes (Bluetooth Standard Ver. 4.1 (2.4GHz band))
HD OUTPUT: PhotoTV HD, 4K movie output/4K still image PB	HDMI micro connector (Type-D), BRAVIA Sync(Control for HDMI),
MULTI INTERFACE SHOE:	Yes <sup>13</sup>
AUTO-LOCK ACCESSORY SHOE:	-
SMART ACCESSORY TERMINAL 2:	-
MIC TERMINAL:	Yes(3.5 mm Stereo minijack)
DC IN TERMINAL:	-
SYNC TERMINAL:	Yes
HEADPHONE TERMINAL:	Yes(3.5 mm Stereo minijack)
VERTICAL GRIP CONNECTOR:	Yes
PC REMOTE:	Yes
LAN TERMINAL:	Yes
Audio	
MICROPHONE: XYST1M(sold separately)	Built-in stereo microphone or XLR-K2M/XLR-K1M/ECM-
SPEAKER:	Built-in,monaural
Print	
COMPATIBLE STANDARDS:	Exif Print, Print Image Matching III, DPOF setting
Custom function	
TYPE: sets /memory card 4 sets), Reg Cust Shoot Set	Custom key settings, My Menu, Programmable Setting (Body 3
Lens Compensation	
SETTING:	Peripheral Shading, Chromatic Aberration, Distortion
Power	
SUPPLIED BATTERY:	One rechargeable battery pack NP-FZ100
BATTERY LIFE (STILL IMAGES): (CIPA standard) <sup>14</sup>	Approx. 480 shots (Viewfinder) / approx. 650 shots (LCD monitor)



BATTERY LIFE (MOVIE, ACTUAL RECORDING): Approx. 105 min (Viewfinder) / Approx. 120 min (LCD monitor) (CIPA standard)1516

BATTERY LIFE (MOVIE, CONTINUOUS RECORDING): Approx. 185 min (Viewfinder) / Approx. 195 min (LCD monitor) (CIPA standard)1517

INTERNAL BATTERY CHARGE: Yes

EXTERNAL POWER: -

POWER CONSUMPTION WITH VIEWFINDER: Still images: approx. 4.1W(with FE 28-70mm F3.5-5.6 OSS lens attached), Movies: approx5.3W(with FE 28-70mm F3.5-5.6 OSS lens attached)

POWER CONSUMPTION WITH LCD SCREEN: Still images: approx. 3.0W(with FE 28-70mm F3.5-5.6 OSS lens attached), Movies: approx5.0W(with FE 28-70mm F3.5-5.6 OSS lens attached)

USB POWER SUPPLY: Yes

Others

OPERATING TEMPERATURE: 32 - 104 degrees F / 0 - 40 degrees C

Size & Weight

WEIGHT (WITH BATTERY AND MEMORY CARD INCLUDED): Approx. 673 g / approx. 1 lb 7.7 oz

DIMENSIONS (W X H X D): inches Approx. 126.9mm x 95.6mm x 63.0mm/Approx. 5 x 3 7/8 x 2 1/2