Clifton Cameras Product Specification

Canon EOS 90D Digital Camera Full Spec

IMAGE SENSOR

Type	APS-C CMOS
Effective Pixels	Approx. 32.5 megapixels
Total Pixels	Approx. 34.4 megapixels
Aspect Ratio	3:2
Sensor Cleaning	EOS integrated cleaning system
Colour Filter Type	Primary Colour
IMAGE PROCESSOR	DIGIC 8
Type	

LENS

Lens Mount	EF/EF-S
Focal Length	Equivalent to 1.6x the focal length of the lens

FOCUSING

Method	Dual Pixel CMOS AF
AF System/ Points	45 cross-type AF points

AF working range	EV -3 – 18 (at 23°C & ISO100)
AF Modes	Spot AF
	1-Point AF Zone AF Large Zone AF
	Face Priority AF AI Focus
	One Shot AI Servo
	Movie Servo AF Continuous AF Eye Detection AF
AF area	Horizontal: approx. 88%, Vertical: approx. 100%
AF Lock	Locked when shutter button is pressed half way
AF Assist Beam	Intermittent firing of built-in flash or emitted by optional dedicated Speedlite
AF Microadjustment	Adjust all lenses by same amount Adjust by lens
Manual Focus	Selected on lens
EXPOSURE CONTROL	
Metering modes	Viewfinder shooting:
	Approx 220,000 pixels RGB+IR metering sensor 216-zone (18×12) TTL full-aperture metering
	Live View shooting and Move recording: 384-zone metering with image sensor
Metering Range	EV 1-20 (optical viewfinder) EV -2 – 20 (Live View)
	EV 0 – 20 (Movie recording)

AE Lock	Auto: In One-shot AF mode with evaluative metering exposure is locked when focus is achieved.
	Manual: By AE lock button in P, TV, AV and M mode.
Exposure Compensation	+/-5 EV in 1/3 or 1/2 stop increments (viewfinder)
	+/-3 EV in 1/3 or 1/2 stop increments (Live View/ Movie)
AEB	+/-3 EV 1/3 or 1/2 stop increments
ISO Sensitivity (8)	Auto (100-12800min / 100-25600 max) in 1-stop increments.
	Manual (100-25600) in 1/3-stop increments, expanded to 51200 equivalent.
	Minimum limit may change depending on the lens

SHUTTER

Type	Vertical-travel mechanical focal-plane shutter, electronically controlled at all speeds
Speed	Creative Zone: 1/16000 – 30 sec, bulb Basic Zone: 1/8000 – 1 sec
	Available range varies by shooting mode

WHITE BALANCE

Type	Auto white balance with the imaging sensor
Settings	AWB (Ambience priority, White priority), Daylight, Shade, Cloudy, Tungsten light, White Fluorescent light, Flash, Custom, Colour Temperature Setting. White balance compensation: 1. Blue/Amber +/-9. Magenta/ Green +/-9
Custom White Balance	Yes, 1 setting can be registered

WB Bracketing	+/-3 levels in single level increments

VIEWFINDER

Type	Pentaprism
Coverage (Vertical/Horizontal)	Approx. 100%
Magnification	Approx. 0.95x (4)
Eyepoint	Approx. 22mm (from eyepiece lens centre)
Dioptre Correction	-3 to +1 m-1 (dioptre)
Focusing Screen	Fixed
Mirror	Quick-return half mirror
Viewfinder Information	AF information: AF points, focus confirmation, AF area selection modeExposure information: Shutter speed, aperture value, ISO speed (always displayed), AE lock, exposure level/compensation, spot metering circle, exposure warning, AEB.Flash information: Flash ready, high-speed sync, FE lock, flash exposure compensation, red-eye reduction light.Imageinformation: Card information, maximum burst (2 digit display), Highlight tone priority (D+).Composition information: Grid, Electronic level, Aspect RatioOther information: Battery check, Alert symbol, Flicker Detection
Depth of field preview	Yes, with Depth of Field preview button.
Eyepiece shutter	None. Eyepiece cover attached to strap

LCD MONITOR

Type	Touch screen vari angle 7.7cm (3.0″) 3:2 Clear View II TFT, approx. 1040K dots
Coverage	Approx. 100%

Viewing Angle (horizontally/vertically)	Approx. 170°
Coating	Anti smudge
Brightness Adjustment	Adjustable to one of seven levels
Touch Screen Operations	Touch Shutter Touchscreen sensitivity Beep
FLASH	
Type	Manual pop-up retractable flash in the pentaprism housing
Guide number	Approx 12/39.4 (ISO100 m/feet)
Flash coverage	Approx. 17mm focal length/angle of view
Flash exposure compensation	+/- 3 stops in 1/3 or ½ stop increments. It is available using either built-in flash on the side of the camera or an external flash unit.
Built-in Flash recycle time	Approx. 3 seconds
Modes	Auto, Manual flash, Integrated Speedlite Transmitter
Colour temperature	Equivalent to daylight
Red eye reduction	Using the red eye reduction lamp
FE lock flash metering	Supported
Flash sync speed	Max 1/250 sec
Slow synchro	1/250 – 30 sec (auto) 1/250 – 1/60 sec (auto 1/250 sec (fixed)
External Flash Compatibility	E-TTL II with EX series Speedlites, wireless multi-flash support

| E-TTL II flash metering | Evaluative (Face Priority) Evaluative |
| | Average |

Technical Specifications EOS 90D

SHOOTING

| Modes | Scene Intelligent Auto (Stills and Movie), SCN (Portrait, Group Photo, Landscape, Close-up, Sports, Night Portrait, Handheld Night Scene, HDR Backlight Control, Food, Kids, Candlelight, Panning), HDR movies, Creative filters, Program AE, Shutter priority AE, Aperture priority AE, |
| | Manual (Stills and Movie), Bulb, Custom |

| Picture Styles | Auto, Standard, Portrait, Landscape, Fine Detail, Neutral, Faithful, Monochrome, User Defined (x3) |

| Colour Space | Selectable between sRGB and Adobe RGB |

Image Processing	Highlight Tone Priority (Disable/Enable/Enhanced) Auto Lighting Optimizer (4 settings)
	Long exposure noise reduction
	High ISO speed noise reduction (4 settings) Multi Shot Noise Reduction
	Auto Correction of Lens Peripheral illumination and Chromatic aberration correction
	Diffraction correction Digital Lens Optimizer
	Creative filters (Grainy B/W, Soft focus, Fish-eye effect, Water painting effect, Toy camera effect, Miniature effect, HDR x 4)
	RAW image processing (Brightness adjustment, White balance, Picture Style, ALO, High ISO speed NR, image quality, Colour space, Lens aberration correction.)

Drive modes	Single, Continuous L, Continuous H, Continuous Shooting Panning, Silent Single Shooting, Self timer (2s+remote, 10s +remote, Continuous)
Continuous Shooting	One shot: Max approx. 10 fps (viewfinder) / 11 fps (live view) Servo: Max approx. 10 fps (viewfinder) / 11 fps (live view)
LIVE VIEW MODE	
Type	Electronic viewfinder with image sensor
Coverage	Approx. 100%
Frame Rate	30 fps
Focusing	Manual Focus (Magnify the image 5x or 10x at any point on screen)Autofocus: Dual Pixel CMOS AF (Face detection and Tracking AF, FlexiZone-Multi, FlexiZone-Single), Tracking sensitivity (-3 to +3) and Movie Servo AF Speed (-7 to +2)
Metering	Real-time evaluative metering with image sensor. Evaluative metering, partial metering, spot metering, center-weighted average metering.
Display Options	Basic, Detailed, On-screen buttons, Histogram, Electronic level
FILE TYPE	
Still Image Type	JPEG: (Exif 2.31 compliant) RAW: RAW (14bit, Canon original RAW CR3),
RAW+JPEG simultaneous recording	RAW/C-RAW and JPEG simultaneous image recording quality is supported.

Image Size	JPEG 3:2: (L) 6960 x 4640, (M) 4800 x 3200, (S1) 3472 x 2320, (S2) 2400 x 1600, (RAW/CRAW) 6960 x 4640
	JPEG 4:3: (L) 6160 x 4640, (M) 4256×3200, (S1) 3072×2320, (S2) 2112×1600, (RAW/CRAW) 6960 x 4640 JPEG 16:9: (L) 6960×3904, (M) 4800×2688, (S1) 3472×1952, (S2) 2400×1344, (RAW/CRAW) 6960 x 4640 JPEG 1:1: (L) 4646×4646, (M) 3200×3200, (S1) 2320×2320, (S2) 1600×1600, (RAW/CRAW) 6960 x 4640
Movie Type	MP4
	MPEG-4 AVC/H.264 (variable averaged bit rate) Audio: AAC/Linea PCM
Movie Size	4K (3840 x 2160) Uncropped/Cropped 29.97 fps
	Full HD (1920 x 1080) 119.88 fps
	HD (1280 x 720) 59.94 fps
	HDR (1920 x 1080) 29.97 fps
Movie Length	Max duration 29min 59sec, Max file size 4GB (If file size exceeds 4GB a new file will be created automatically)
OTHER FEATURES	
Custom Functions	29 Custom Functions
Water / Dust resistance	Yes
Playback zoom	1.5x – 10x
Histogram	Brightness: Yes RGB: Yes

Image Erase/Protection	Erase: Single image, All images in folder, All images on card
	Protection: 6 options

Menu Languages	29 Languages
	English, German, French, Dutch, Danish, Portuguese, Finnish, Italian, Norwegian, Swedish, Spanish, Greek, Russian, Polish, Czech, Hungarian, Vietnamese, Hindi Romanian, Ukrainian, Turkish, Arabic, Thai, Simplified Chinese, Traditional Chinese, Korean, Malay, Indonesian and Japanese

Firmware Update	Update possible by the user.

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INTERFACE

Computer	Hi-Speed USB

Other	Video output (PAL/ NTSC) (integrated with USB terminal), HDMI mini output (Typce C only, CEC not supported), External microphone (3.5mm Stereo mini jack), Headphone socket (Stereo mini jack)

DIRECT PRINT

Canon Printers	Canon Compact Photo Printers and PIXMA Printers supporting PictBridge

PictBridge	Yes

STORAGE	SD, SDHC or SDXC (UHS-II) card

Type	

SUPPORTED OPERATING SYSTEMS	Windows 10 / 8.1 / 8 / 7(*)* With Microsoft .NET Framework 4.5 is installed.
	Mac OS X 10.9, 10.10, 10.11

PC & Macintosh

SOFTWARE

Image Processing   Digital Photo Professional 4.4.0 (RAW Image Processing)

Other   EOS Utility

                        Canon Camera Connect App

POWER SOURCE

Batteries   Rechargeable Li-ion Battery LP-E6N (supplied)

Battery life   Approx. 1860 (at 23°C)- Not including battery packs

Battery Indicator   6 levels + percentage

Power saving   Power turns off after 30 sec, 1, 2, 4, 8, 15min

Power Supply & Battery AC Adapter AC-E6(N), DC coupler: DR-E6, Battery charger LC-E6/LC-E6E
Chargers

ACCESSORIES

Viewfinder   Eyecup Eb, E-series Dioptric Adjustment Lens, Eyepiece Extender EP-EX15, Angle
                        Finder C

Wireless File Transmitter   Built in Wi-Fi transmission

                        GPS Receiver GP-E2, Wireless remote BR-E1, Remote Controller RC-6, Remote Switch
                        RS-60E3, Timer Remote Controller TC-80N3, Remote Controller Adapter RA-E3

Lenses	All EF and EF-S lenses
Flash	ST-E2, ST-E3-RT, EL-100, 270EX II, 430EX III RT/ 430 EX III, 470EX-AI, 600EX II-RT, Macro Ring Lite MR-14EX II, Macro Twin Lite MT-26EX-RT
Battery	Battery Park LP-E6N Battery Charger LC-E6 or LC-E6E Car Battery Cable CB-570 Care Battery Charger CBC-E6 Grip: BG-E14
Other	Hand Strap E2 Battery Magazine BGM-E14L / BGM-E14A

PHYSICAL SPECIFICATIONS

Body Materials	Aluminum alloy and polycarbonate resin with glass fibre
Operating Environment	0 – 40 °C, 85% or less humidity
Dimensions (WxHxD)	140.7 x 104.8 x 76.8mm
Weight (body only)	Approx. 701g (CIPA testing standard, including battery and memory card)