Canon

PowerShot V10

Advanced User Guide

This manual is for PowerShot V10 with firmware version 1.3.0 or later installed.

E

Specifications

Lens

Focal length	During Movie recording (Full HD, 16:9)	6.6 mm (Approx. 19 mm equivalent, 35mm format equivalent)
	During Still photo shooting	6.6 mm (Approx. 18mm equivalent, 35mm format equivalent)
Angle of view	During Movie recording (Full HD, 16:9)	97.5°
	During Still photo shooting	100.2°
Optical zoom		None
Focusing range		0.05 m / 0.16 ft. to infinity

Image sensor

Type: 1-inch high-sensitivity CMOS sensor (back-illuminated)

Effective pixels[1]	During Movie recording (Full HD, 16:9)	Approx. 13.1 megapixels
	During Still photo shooting	Approx. 15.2 megapixels
Total pixels[1]		Approx. 20.9 megapixels

* 1: Rounded to the nearest 100,000.

Recording system

Image recording format: Compliant with Design rule for Camera File system 2.0 and Exif 2.31[*1]
 * 1: Supports time offset information

Image type and extension

Image type		Extension
Still photos	JPEG	.JPG
Movies	IPB (Standard) / IPB (Light)	.MP4

Recording media
microSD, microSDHC, and microSDXC memory cards

UHS-II	Not supported
UHS-I	Supported
UHS speed class	Supported
SD speed class	Supported

Still photo recording

Still photo pixel count

Image size		Resolution (pixels)			
		Aspect ratio			
		3:2	4:3	16:9	1:1
JPEG	◢L	Approx. 20.0 megapixels (5472 × 3648)	Approx. 17.7 megapixels (4864 × 3648)	Approx. 16.8 megapixels*1 (5472 × 3072)	Approx. 13.3 megapixels (3648 × 3648)
	◢M	Approx. 8.9 megapixels (3648 × 2432)	Approx. 7.9 megapixels*1 (3248 × 2432)	Approx. 7.5 megapixels*1 (3648 × 2048)	Approx. 5.9 megapixels (2432 × 2432)
	◢S1	Approx. 5.0 megapixels (2736 × 1824)	Approx. 4.4 megapixels (2432 × 1824)	Approx. 4.2 megapixels*1 (2736 × 1536)	Approx. 3.3 megapixels (1824 × 1824)
	S2	Approx. 3.8 megapixels (2400 × 1600)	Approx. 3.4 megapixels*1 (2112 × 1600)	Approx. 3.2 megapixels*1 (2400 × 1344)	2.6 megapixels (1600 × 1600)

* Values for recorded pixels are rounded off to the nearest 100,000th.
* Image quality for L / M / S1: Fixed to Fine.
* HEIF / RAW / C-RAW: Not supported
* Because distortion correction is applied, the camera's effective pixel count may be lower than the image pixel count.
* 1: Aspect ratios are slightly different for these image sizes.

File size/number of shots available

Image quality		File size [Approx. MB]	Available shots [Approx.]*1
JPEG	◢L	9.6	2880
	◢M	4.8	5270
	◢S1	2.8	7940
	S2	1.9	15630

* 1: Number of shots using a 32 GB card that conforms to Canon testing standards.
* File sizes are determined based on Canon testing standards.
* File size and number of shots available vary by shooting conditions (such as aspect ratio, subject, ISO speed, and Custom Functions).

Movie recording

Movie recording format

Container format	MP4
Compression	H.264 / MPEG-4 AVC
Audio	AAC

Movie recording size overview

Movie recording size	Resolution	Aspect ratio	Frame rate (fps)		Video compression	Audio compression
			NTSC	PAL		
4K UHD	3840×2160	16:9	29.97 23.98	25.00	IPB (Standard) IPB (Light)	AAC
Full HD	1920×1080	16:9	59.94 29.97	50.00 25.00		
			23.98	25.00	IPB (Standard)	

Video system: NTSC / PAL

Movie recording angle of view

Movie recording size	Recording angle of view (approx. %)	
	Horizontal	Vertical
4K UHD	100	84.4
Full HD	100	84.3

* Based on the angle of view of a still photo (JPEG 3:2) (100%).

Estimated recording time, movie bit rate, and file size

Movie recording size			Total recording time (approx.)			Video bit rate (Approx. Mbps)	File size (Approx. MB/min.)
			32 GB	128 GB	512 GB		
4K UHD	29.97 fps 25.00 fps 23.98 fps	IPB (Standard)	35 min.	2 hr. 21 min.	9 hr. 27 min.	120	860
		IPB (Light)	1 hr. 10 min.	4 hr. 43 min.	18 hr. 52 min.	60	431
Full HD	59.94 fps 50.00 fps	IPB (Standard)	1 hr. 10 min.	4 hr. 43 min.	18 hr. 52 min.	60	431
		IPB (Light)	2 hr. 1 min.	8 hr. 4 min.	32 hr. 15 min.	35	252
	29.97 fps 25.00 fps	IPB (Standard)	2 hr. 20 min.	9 hr. 23 min.	37 hr. 35 min.	30	216
		IPB (Light)	5 hr. 47 min.	23 hr. 11 min.	92 hr. 47 min.	12	88
	23.98 fps	IPB (Standard)	2 hr. 20 min.	9 hr. 23 min.	37 hr. 35 min.	30	216

* Bit rate only applies to video output, not audio or metadata.
* Movie recording stops when the maximum recording time per movie is reached.
* No audio is recorded for approx. the last two frames with the compression method for movie recording quality set to IPB (Standard) or IPB (Light). Moreover, the video and sound may be slightly out of sync when movies are played back in Windows.

Maximum file size

Card capacity (format)	Maximum file size
SDXC: exFAT	Unlimited
SDHC: FAT32	4 GB (If exceeded, a new file is created for movie recording.)
SD: FAT16 / FAT12	2 GB

Card performance requirements (movie recording) [write/read speed]

Movie recording size			Card performance requirements
4K UHD	29.97 fps 25.00 fps 23.98 fps	IPB (Standard)	UHS Speed Class 3 or higher
		IPB (Light)	SD Speed Class 10 or higher
Full HD	59.94 fps 50.00 fps	IPB (Standard)	SD Speed Class 10 or higher
		IPB (Light)	SD Speed Class 6 or higher
	29.97 fps 25.00 fps 23.98 fps	IPB (Standard)	SD Speed Class 6 or higher
		IPB (Light)	SD Speed Class 4 or higher

Built-in microphone: Stereo microphones

Auto stopping of movie recording

Maximum recording time per recording

Normal movie and during movie recording other than below	Maximum: Approx. 1 hr.
Smooth skin movie [4K movie recording]	Maximum: Approx. 5 min.*[1]

* Longest time available per recording.

* Except when recording stops from overheating or due to the power source used, errors, or other reasons.

* 1: Maximum of approx. 1 hr. when [■: **Auto pwr off temp.**] is set to [**High**].

Autofocus (AF)

Focusing method: Contrast detection

Focusing operation

	Still photo shooting	Movie recording
AF operation	• One-Shot AF	• Movie Servo AF
AF method	• Face tracking AF	• Face tracking AF • Specified frame AF
AF lock	• Not supported	• Tap to start/stop AF[1]
Manual focus (MF)	Not supported	

 * 1: Activated by the right cross key during output to a single screen over HDMI.
 * AF lock icon is displayed only in the detailed information screen.

Focusing area

Still photo shooting (with face detection): Approx. 100% vertical and horizontal coverage
Movie recording (with face detection): Approx. 100% vertical and horizontal coverage
Number of AF areas for One-Shot AF (still photos): Max. 31 areas (7×5; corners not available)

Screen

Type: TFT color, liquid-crystal monitor
Screen size: 2.0 inch (aspect ratio of 3:2)
Dot count: Approx. 460,000 dots
Touch-screen: Capacitive sensing

Angle adjustment

Tilt: Approx. 180° upward
Reverse display: On / Off
Auto invert display: Automatically inverts images by detecting the camera orientation and whether the screen is open.

Exposure control

Metering mode: 384-zone (24×16) metering using the image sensor
Metering mode: Evaluative metering

Shutter

Still photo shooting

Type: Rolling shutter, using the image sensor
Shutter speed: 1/2000–1/8 sec.
 * Up to 1.0 sec. depending on the scene.

Movie recording

Type: Rolling shutter, using the image sensor
Shutter Speed:
1/4000–1/25 sec.
 * Varies by movie recording mode and frame rate.
Manual exposure movies: 1/4000–1/8 sec.

External interface

Digital terminal

Terminal type	USB Type-C
Transmission	Equivalent to Hi-Speed USB (USB 2.0)
Applications	• For computer communication • USB battery charging / camera power supply

HDMI output terminal: HDMI micro OUT terminal (Type D)
 * Resolution switches automatically
 * HDMI CEC not supported
 * Images not displayed unless [For NTSC] or [For PAL] is set correctly for the TV video system
External microphone input terminal: 3.5 mm diameter stereo mini jack
 * Stereo Microphone DM-E100 is recommended if plug-in power will be used.

Power source

Battery: Built-in rechargeable lithium-ion battery
 * Not user-replaceable.

USB charging time

Battery charger used	Charging time
PD-E1 (at room temperature)	Approx. 1 hr. 50 min.

 * To fully recharge a completely depleted battery (unless over-discharged; details conform to Canon testing standards).
 * The charging time required and the amount charged vary depending on ambient temperature and remaining capacity.
 * Charging is possible in a range of 5–40°C / 41–104°F. For safety, charging takes longer in colder environments (5–10°C / 41–50°F).

Number of shots available: Approx. 290
 * At 23°C / 73°F.
 * The number of shots available may vary greatly depending on the shooting environment.

Available operating time

Conditions of use			Temperature	Available operating time
Time available for movie recording	4K	• IPB (Standard) • 29.97 fps / 25.00 fps	+23°C / 73°F	Approx. 55 min.
			0°C / 32°F	Approx. 55 min.
	Full HD	• IPB (Standard) • 59.94 fps / 50.00 fps	+23°C / 73°F	Approx. 1 hr. 20 min.
			0°C / 32°F	Approx. 1 hr. 20 min.
Time available for continuous playback (normal playback)	4K	• IPB (Standard) • 29.97 fps / 25.00 fps	+23°C / 73°F	Approx. 2 hr. 40 min.

 * With a fully charged new battery

Dimensions and weight

Dimensions

(W) × (H) × (D)	Approx. 63.4 × 90.0 × 34.3mm / Approx. 2.50 × 3.54 × 1.35 in.

Weight

	Exterior color	Weight
Body (including card)	Black	Approx. 211 g / Approx. 7.44 oz.
	Silver	Approx. 211 g / Approx. 7.44 oz.
Body only	Black / Silver	Approx. 210 g / 7.41 oz.

Operating environment

Operating temperature: 0–40°C / 32–104°F
Operating humidity: 10%–90%

Wi-Fi (Wireless LAN) communication

Supported standards (equivalent to IEEE 802.11b/g/n standards)

Wi-Fi standards	Transmission method	Maximum link speed
IEEE 802.11b	DSSS modulation	11 Mbps
IEEE 802.11g	OFDM modulation	54 Mbps
IEEE 802.11n		72.2 Mbps

 * Not compatible with MIMO (Multiple-input and multiple-output).

Transmission frequency (Center frequency)

Frequency	2412 to 2462 MHz
Channels	1 to 11 ch

Authentication and data encryption methods

Connection method	Authentication	Encryption	
		Encryption	Key format and length
Camera access point	WPA2 / WPA3-Personal	AES	ASCII 8 characters
	Open	Disable	
Infrastructure	Open	WEP	Hexadecimal 10 digits Hexadecimal 26 digits ASCII 5 characters ASCII 13 characters
		Disable	
	Shared key	WEP	Hexadecimal 10 digits Hexadecimal 26 digits ASCII 5 characters ASCII 13 characters
	WPA / WPA2 / WPA3-Personal	TKIP AES	1–127 characters

Bluetooth

Standards compliance: Bluetooth Specification Version 4.2 compliant (Bluetooth Low Energy technology)
Transmission method: GFSK modulation