

Specifications

Type

Digital, AF/AE single-lens reflex, camera

Recording Media

CF Cards (Type I); Compatible with UDMA CF cards; SD, SDHC, and SDXC Memory Cards

Image Format

Approx. 36 mm x 24mm (35mm Full-frame)

Compatible Lenses

Canon EF Lenses (excluding EF-S Lenses)

Lens Mount

Canon EF mount

Image Sensor

Type

High-sensitivity, high-resolution, large single-plate CMOS sensor

Pixels

Effective pixels: Approx. 22.3 megapixels

Pixel Unit

6.25 μm square

Total Pixels

Total pixels: 23.4 megapixels

Aspect Ratio

3:2 (Horizontal: Vertical)

Color Filter System

RGB primary color filters

Low Pass Filter

Fixed position in front of the image sensor

Dust Deletion Feature

(1) Self Cleaning Sensor Unit

·Automatic Sensor Cleaning

·Removes dust adhering to the infrared- and ultraviolet-blocking glass.

·Self-cleaning executed automatically when power is turned on or off. Manual execution also possible.

·Low-pass filter has a fluorine coating.

(2) Dust Delete Data acquisition and appending

·The coordinates of the dust adhering to the infrared- and ultraviolet-blocking glass are detected by a test shot and appended to subsequent images.

·The dust coordinate data appended to the image is used by the provided software to automatically erase the dust spots.

(3) Manual cleaning

Recording System

Recording Format

Design Rule for Camera File System 2.0 and EXIF 2.3

Image Format

Still Image: JPEG, RAW (14-bit Canon Original), M-RAW, S-RAW, RAW+JPEG, M-RAW+JPEG, S-RAW+JPEG

Video: MOV (Image data: H.264/MPEG-4 AVC; Audio: Linear PCM)

File Size

- (1) Large: Approx. 22.10 Megapixels (5760 x 3840)
- (2) Medium: Approx. 9.80 Megapixels (3840 x 2560)
- (3) S1 (Small 1): Approx. 5.50 Megapixels (2880 x 1920)
- (4) S2 (Small 2): Approx. 2.50 Megapixels (1920 x 1280)
- (5) S3 (Small 3): Approx. 350,000 Pixels (720 x 480)
- (6) RAW: Approx. 22.10 Megapixels (5760 x 3840)
- (7) M-RAW: Approx. 10.50 Megapixels (3960 x 2640)
- (8) S-RAW: Approx. 5.50 Megapixels (2880 x 1920) Exact file sizes depend on the subject, ISO speed, Picture Style, etc.

Recording Functions

1. Standard

* Records to either the CF card or SD card.

2. Auto switch card

* When the current card becomes full, the camera switches to the other card automatically.

3. Record separately

* The CF card and SD card record the same image at a different image recording quality (L, M, S1, S2, S3, RAW, M-RAW, S-RAW)

4. Record to multiple

* Both the CF card and SD card record the same image at the same image recording quality. (Also applies to RAW+JPEG, M+JPEG, and SRAW+JPEG)

Backup Recording

Images recorded in a card can be copied to the other card

File Numbering

The following three types of file numbers can be set:

(1) Continuous numbering

* The continuous numbering of captured images will continue even after you replace the camera's card. (The numbering continues even when the folder changes.)

(2) Auto reset

* When you replace the camera's card, the numbering will be reset to start from 0001. If the new card already contains images, the numbering will continue from the last recorded image in the card.

(3) Manual reset

* Resets the file number to 0001, and creates a new folder automatically.

RAW + JPEG Simultaneous Recording

The image-recording quality can be selected in any combination of the three RAW and eight JPEG recording quality settings.

Color Space

Selectable between sRGB and Adobe RGB

Picture Style

Auto, Standard, Portrait, Landscape, Neutral, Faithful, Monochrome, User Defined 1-3

* Scene Intelligent Auto will set [Auto] automatically.

* [Standard] is the default setting for [User Def. 1-3]

White Balance

Settings

- (1) Auto (AWB)
- (2) Daylight
- (3) Shade
- (4) Cloudy
- (5) Tungsten light
- (6) White fluorescent light
- (7) Flash
- (8) Custom (Custom WB)
- (9) Color temperature

* With an EX-series Speedlite having the color temperature information transmission feature, the color temperature setting changes to match the color temperature when the flash is fired. Set to approx. 6000K if the flash unit does not have the color temperature communication feature.

Auto White Balance

Auto white balance with the image sensor

Color Temperature Compensation

Blue/amber bias: ± 9 levels

· Magenta/green bias: ± 9 levels

* Corrected in reference to the current WB mode's color temperature.

Color Temperature Information Transmission

Provided

Viewfinder

Type

Eye-level pentaprism

Coverage

Approx. 100% vertically and horizontally (At approx. 21mm eyepoint)

Magnification

Approx. 0.71x / Angle of view 34.1° (with 50mm lens at infinity, -1 m^{-1} (dpt))

Eye Point

Approx. 21mm (At -1 m^{-1} from the eyepiece lens center)

Dioptric Adjustment Correction

-3.0 to $+1.0 \text{ m}^{-1}$ (diopter)

Focusing Screen

Fixed

Mirror

Quick-return half mirror (transmission: reflectance ratio of 40:60)

Viewfinder Information

·AF information

AF point, focus confirmation, AF status indicator

·Exposure information

Shutter speed, aperture, ISO speed (always displayed), AE lock, exposure level, exposure warning

·Flash information

Flash ready, flash exposure compensation, high-speed sync, FE lock, red-eye reduction light

·Image information

Highlight tone priority (D+), maximum burst (2-digit display), card information

·Battery check

·Composition information

Grid, electronic level

·Warning symbol

Displayed if any of the following is set: Monochrome, white balance correction, One-touch recording quality switch, expanded ISO speed, or spot metering.

Depth Of Field Preview

Enabled with Depth-of-field preview button

Autofocus

Type

TTL secondary image - registration, phase detection

AF Points

61-point (up to 41 cross-type points)

* One to five cross-type AF points at f/2.8, 10 to 20 cross-type AF points at f/4, and 15 to 21 cross-type AF points at f/5.6. (The number of cross-type AF points will differ depending on the lens.)

AF Working Range

EV -2 - 18 (at 73°F/23°C and ISO 100)

Focusing Modes

(1) Autofocus

·One-Shot AF

·Predictive AI Servo AF

·For automatic AF point selection, the AF point to start the AI Servo AF operation can be selected.

·For automatic AF point selection, the active AF point can be displayed.

·AI Focus AF

·-(Switches between One-Shot AF and AI SERVO AF automatically)

·-Automatically set in A+ Auto Mode

(2) Manual focus (MF)

AF Point Selection

1. Single-point AF (Manual selection)

2. Auto selection 61-Point AF

3. Single-point Spot AF (Manual selection)

4. AF point expansion (Manual selection, 4 points: Up, down, left, and right)

5. AF point expansion (Manual selection, surrounding 8 points)

6. Zone AF (Manual zone selection)

Selected AF Point Display

Displayed in viewfinder with transparent LCD and on LCD panel

Active AF Point Indicator

AF area used in horizontal/vertical (grip up or down) shooting and the manually-selected AF point position can be set separately

AF Assist Beam

(1) Enable

With an EOS-dedicated Speedlite, AF-assist beam is emitted automatically when necessary.

(2) Disable

(3) IR AF assist beam only

* No AF-assist beam with flash bursts.

Exposure Control

Metering Modes

Max. aperture TTL metering with 63-zone SPC with the following selectable modes:

(1) Evaluative metering (linked to all AF points)

(2) Partial metering (center, approx. 7.2% of viewfinder)

(3) Spot metering (center, approx. 1.5% of viewfinder)

·AF point-linked spot metering not provided.

(4) Center-weighted average metering

a. The selectable metering modes can be limited with a Custom Function.

Metering Range

EV 1-20 (at 73°F / 23°C with 50mm f/1.4 lens at ISO 100)

Exposure Control Systems

(1) Scene Intelligent Auto

(2) Program AE (shiftable)

(3) Shutter-priority AE (Safety shift possible)

(4) Aperture-priority AE (Safety shift possible)

(5) Manual exposure

* The metering mode can be specified with a Custom Function.

(6) Bulb

(7) E-TTL II autoflash program AE

* Evaluative metering, Averaged metering

ISO Speed Range

For Stills:

ISO 100-25600 (in 1/3-stop or whole-stop increments)

·ISO speed expansion possible to ISO 50, 51200, and 102400.

·For [Highlight tone priority], the settable ISO speed range will be 200-25600.

·ISO speed safety shift possible with Custom Function.

Auto Setting	
Shooting Mode	ISO Settings
A+	100-12800
P/Tv/Av/M	100-25600
B	ISO 400 fixed
With Flash	ISO 400 fixed*

- *If fill flash will result in overexposure, minimum ISO 100 is set.
- *For bounce flash, ISO 400-1600 is set automatically depending on the light level.

ISO Speed upper and lower limits:

(1) Manual setting range

* ISO speed expansion is set with this option.

(2) Auto ISO range

* ISO speed expansion not settable.

Shutter speed and automatic ISO speed control in P and Av Modes:

In the P and Av shooting modes with Auto ISO set, the ISO speed is set automatically so that a shutter speed slower than the one set with [Minimum shutter speed] (1/250, 1/125, 1/60, 1/30, 1/15, 1/8, 1/4, 0"5, 1") is not set.

Exposure Compensation

Manual: ± 5 stops in 1/3 or 1/2-stop increments

AEB: ± 3 stops in 1/3 or 1/2-stop increments

* Indicated up to ± 3 stops on the LCD panel and in the viewfinder.

AE Lock

(1) Auto AE lock

·In the One-Shot AF mode with evaluative metering, AE lock takes effect when focus is achieved.

(2) Manual AE lock

·With AE lock button. (AE lock is updated each time you press the button.) Enabled in all metering modes.

Shutter

Type

Vertical-travel, mechanical, focal-plane shutter with all speeds electronically-controlled

Shutter Speeds

1/8000 to 30 sec., bulb (Total shutter speed range. Available range varies by shooting mode.)

X-sync at 1/200 sec.

Shutter Release

Soft-touch electromagnetic release

Self Timer

10-sec. or 2-sec. delay

Shutter Lag Time

1) During SW-1 ON, time lag between SW-2 ON and start of exposure:

- Approx. 0.059 sec. (With the shutter-release time lag is shortened with the Custom Function, it will be approx. 0.036 sec.)

2) Time lag between simultaneous SW-1/SW-2 ON and start of exposure: Approx. 0.2 sec.

- Time lag with the aperture stopped down by 3 stops or less. Excludes AF operation time.

External Speedlite

EOS Dedicated Speedlite

E-TTL II autoflash with all EX Series Speedlites

Zooming to Match Focal Length

Provided

Flash Exposure Compensation

± 3 stops in 1/3- or 1/2-stop increments

FE Lock

Provided

External Flash Settings

The camera can set the following with Speedlite 600EX-RT, 580EX II, 430EX II, 320EX, 270EX II, or 270EX:

(1) External flash control

* Flash mode, sync setting, FEB (not possible with 270EX II/270EX), flash exposure compensation, E-TTL II, zoom, wireless master flash (not possible with 430EX II/ 270EX), and clear settings.

* With the Speedlite 600EX-RT, radio wireless control is possible.

(2) Flash Custom Function setting

PC Terminal

Provided (no polarity)

Drive System

Drive Modes

Single, High-speed continuous, Low-speed continuous, Silent Single Shooting and Self-timer (10 sec. self-timer/remote control, or 2-sec. self-timer/remote control)

Continuous Shooting Speed

High-speed: Maximum approx. 6 shots/sec.

Low-speed: Maximum approx. 3 shots/sec.

Silent continuous shooting: Maximum approx. 3 shots/sec.

Maximum Burst

·JPEG Large/Fine: Approx. 65 shots (approx. 16270 shots)

·RAW: Approx. 13 shots (approx. 18 shots)

·RAW+JPEG Large/Fine: Approx. 7 shots (approx. 7 shots)

*Figures are based on Canon's testing standards (ISO 100 and Standard Picture Style) and a 8 GB card.

*Figures in parentheses apply to an UDMA mode 7, 128 GB card based on Canon's testing standards.

Live View Functions

Shooting Modes

Still photo and video recording

Focusing

(1) Autofocus (One-Shot AF)

·Live mode

·One-point, contrast AF. Switching to another AF point possible.

·Face detection Live mode

·Face detection, contrast AF. Face selectable.

·Quick mode

61-point, phase-difference AF, same as normal shooting.

(2) Manual focus

* Magnify the image by 5x or 10x and focus manually.

Metering Modes

Real-time Evaluative metering with the image sensor

Metering Range

Real-time evaluative metering with image sensor:

·Metering range: EV 0 - EV 20 (At 73°F/23°C, 50mm f/1.4 lens, ISO 100)

·AE lock possible

·The active metering time can be changed.

Grid Display

Three grid display provided

Exposure Simulation

Provided

Silent Shooting

Provided (Mode 1 and 2)

Video Shooting**File Format**

MPEG-4 AVC / H.264

Variable (averaged) bit rate

File Size

Recording Sizes:

1920 x 1080 (Full HD), 1280 x 720 and 640 x 480

Frame Rates

[1920 x 1080]: 30 fps / 25 fps / 24 fps

[1280 x 720]: 60 fps / 50 fps

[640 x 480]: 30 fps / 25 fps

Continuous Shooting Time

Based on 8GB Card:

[1920 x 1080]

30 fps ALL-I: 11 min. (685 MB/min.) / IPB: 32 min. (235 MB/min.)

25 fps ALL-I: 11 min. (685 MB/min.) / IPB: 32 min. (235 MB/min.)

24 fps ALL-I: 11 min. (685 MB/min.) / IPB: 32 min. (235 MB/min.)

[1280 x 720]

60 fps ALL-I: 12 min. (610 MB/min.) / IPB: 37 min. (205 MB/min.)

50 fps ALL-I: 12 min. (610 MB/min.) / IPB: 37 min. (205 MB/min.)

[640 x 480]

30 fps IPB: 97 min. (78 MB/min.)

25 fps IPB: 97 min. (78 MB/min.)

* If the recording time reaches 29 min. 59 sec., the movie shooting stops automatically.

* Movie shooting does not stop when the file size reaches 4GB.

Focusing

Same as focusing with Live View shooting

* During movie shooting or if movie cropping has been set, the image cannot be magnified for manual focusing.

Range

ISO Range

·P, Av, and Bulb: Automatically set within ISO 100 - 12800, expandable to H (equivalent to ISO 25600)

·A+ and Tv: Automatically set within ISO 100 - 12800

·M: Auto ISO (automatically set within ISO 100 - 12800), ISO 100 - 12800 set manually (in 1/3- or whole-stop increments), expandable to H (equivalent to ISO 16000/20000/25600)

* If Highlight tone priority is set to enable, the settable ISO speed range will be ISO 200 - 12800.

Exposure Control

(1) Program AE for movie shooting

* For shooting modes other than manual exposure and bulb.

* Shutter speed (1/30 - 1/4000 sec., signal accumulation time), aperture, and ISO speed automatically set.

(2) Manual exposure

* For manual exposure.

* Shutter speed (signal accumulation time), aperture, and ISO speed (auto/manual) manually set. The shutter speed (signal accumulation time) is limited to 1/4000 sec. at the maximum and to 1/30 sec. at the minimum for 24/25/30 fps or 1/60 sec. or higher for 50/60 fps.

Exposure Compensation

Up to ± 3 stops in 1/3-stop increments

* For movies, even if exposure compensation has been set beyond ± 3 stops, exposure compensation up to only ± 3 stops will be applied.

* For still photos, exposure compensation up to ± 5 stops can be applied.

LCD Monitor

Type

TFT color, liquid-crystal monitor

Monitor Size

3.2-inches

Pixels

Approx. 1.04 million dots

Coverage

Approx. 100%

Approx. 170° vertically and horizontally

Brightness Control

Auto: Brightness adjusted automatically by the light sensor

* Adjustable to one of three levels: Darker, Standard, Brighter

Manual: Adjustable to one of seven brightness levels

Coating

Clear View LCD II

* Glass surface has an anti-reflective AR coating.

Interface Languages

25 (English, German, French, Dutch, Danish, Portuguese, Finnish, Italian, Norwegian, Swedish, Spanish, Greek, Russian, Polish, Czech, Hungarian, Romanian, Ukrainian, Turkish, Arabic, Thai, Simplified/Traditional Chinese, Korean, Japanese)

Tilt Display

On LCD Monitor

Electronic level indicates up to 360° roll and $\pm 10^\circ$ pitch in 1° increments.

In Viewfinder

The AF point display is used to indicate up to $\pm 6^\circ$ horizontal tilt and $\pm 4^\circ$ vertical tilt in 1° increments (During vertical shooting, up to $\pm 1^\circ$ horizontal tilt and $\pm 6^\circ$ vertical tilt).

Playback

Display Format

Single image, Single image + Image-recording quality/shooting information, histogram, 4- or 9-image index, magnified view (approx. 1.5x-10x), rotated image (auto/manual), image jump (by 10/100 images, index screen, by shooting date, by folder), two-image comparative display, slide show (all images/selected by date/folder), star rating

Highlight Alert

With single-image display (Info.) and single-image display, overexposed highlight areas will blink

Quick Control Function

Items

The following functions can be set:

Shutter speed, aperture, ISO speed, exposure compensation, AEB, flash exposure compensation, AF point selection (including AF area selection modes), Picture Style, White Balance, WB Correction, metering mode, Auto Lighting Optimizer, recording function switching, image-recording quality, AF mode, drive mode, and Custom Controls (camera controls/buttons customization).

Image Protection and Erase

Protection

Erase protection can be applied or canceled for a single image, all images in a folder or all images in the card

Erase

Erase a single image, selected images, all images in a folder, all images in a card or erase only unprotected images

Direct Printing

Compatible Printers

PictBridge-compatible printers

Printable Images

RAW and JPEG images complying to Design rule for Camera File System

·Movies cannot be printed

DPOF: Digital Print Order Format

DPOF

Version 1.1 compatible

Direct Image Transfer

Compatible Images

JPEG and RAW images and movie

For RAW+JPEG, only the RAW or JPEG image or both images can be transferred

Customization

Custom Functions

13 Custom Functions settable with the camera

Custom Controls

The following camera controls can be customized by assigning the desired function: Shutter button halfway pressing, AF-ON button, AE lock button, Depth-of-field preview button, lens AF Stop button, Multifunction button, SET button, Main Dial, Quick Control Dial, and Multicontroller

Camera User Settings

Current camera settings can be registered to C1, C2 and C3 on the Mode Dial (Automatic registration update is possible)

My Menu Registration

Up to six top-tier menu options and Custom Function settings can be registered

Interface

USB Terminal

For personal computer communication and direct printing (USB 2.0 Hi-Speed)

Video Out Terminal

(1) Video OUT terminal: NTSC/PAL selectable

(2) mini-HDMI OUT terminal

Extension System Terminal

For connection to WFT-E7A (WFT) and GP-E2 (GPS)

Gigabit-Ethernet

The RJ-45 jack is not built-in and is only available via the Wireless File Transmitter WFT-E7A

Power Source

Battery

One Battery Pack LP-E6

AC power can be supplied with the AC Adapter Kit ACK-E6

Battery Life

1) Camera body only:

Shooting Method	Temperature	Possible Shots
Viewfinder Shooting	At 73°F/ 23°C	Approx. 950
	At 32°F/ 0°C	Approx. 850
Live View shooting	At 73°F/23°C	Approx. 200
	At 32°F/ 0°C	Approx. 180

2) With Battery Grip BG-E11:

Shooting Method	Battery	Temperature	Possible Shots
Viewfinder Shooting	LP-E6 x 1	Same as (1)	
	LP-E6 x 2	At 73°F/ 23°C	Approx. 1900
		At 32°F/ 0°C	Approx. 1700
	Size AA/LR6 alkaline batteries	At 73°F/ 23°C	Approx. TBA
		At 32°F/ 0°C	Approx. TBA
Live View shooting	LP-E6 x 1	Same as (1)	
	LP-E6 x2	At 73°F/ 23°C	Approx. TBA
		At 32°F/ 0°C	Approx. TBA
	Size AA/LR6 alkaline batteries	At 73°F/ 23°C	-
		At 32°F/ 0°C	-

*Based on CIPA testing standards

Battery Check

Automatic battery check when the power switch is turned on:

Displayed in 6 levels:

·Battery level displayed on LCD panel and in viewfinder.

·Battery information can be checked with the [Battery info.] menu

·If Battery Grip BG-E11 is used with size AA/LR6 batteries; the battery level is displayed in four levels instead.

Power Saving

Power turns off after the set time (1, 2, 4, 8, 15 or 30 minutes) of non-operation elapses.

Date/Time Battery

CR1616 lithium battery

Start-up Time

Approx. 0.1 sec

Dimensions and Weight

Dimensions (W x H x D)

Approx. 6.0 x 4.6 x 3.0 in. (152.0 x 116.4 x 76.4 mm)

Weight

Approx. 33.5 oz. / 950g (Based on CIPA standards)

Approx. 30.3 oz./ 860g (Body only)

Operating Environment

Working Temperature Range

32-104°F/0-40°C

Working Humidity Range

85% or less