

EOS C200 EOS C200B

Digital Cinema Camera

Firmware ver. 1.0.3.1.00

Specifications

C200 / C200B

System

- Recording System

Movies:

RAW

Video format: Cinema RAW Light

Audio format: Linear PCM, 16 or 24 bit, 48 kHz, 4 channels

File format: CRM (Canon RAW Movie; Canon proprietary file format)

MP4

Video compression: MPEG-4 AVC/H.264

Audio format: MPEG-4 AAC-LC, 16 bit, 48 kHz, 2 channels

Linear PCM, 16 bit, 48 kHz, 4 channels

File format: MP4

XF-AVC

Video compression: MPEG-4 AVC/H.264

Audio format: Linear PCM, 24 bit, 48 kHz, 4 channels

File format: MXF

Photos: DCF (Design rule for Camera File system), compatible with Exif Ver. 2.3, JPEG compression

- Video Configuration¹ (recording/playback)

Primary clips:

RAW

Bit rate: 1 Gbps

Resolution: 4096x2160

Color depth: 10 bit or 12 bit (depending on the frame rate)

Frame rate: 59.94P, 50.00P, 29.97P, 23.98P, 25.00P, 24.00P

MP4

Bit rate: 150 Mbps, 35 Mbps

Resolution: 3840x2160, 1920x1080

Color sampling: 4:2:0, 8 bit

Frame rate: 59.94P, 50.00P, 29.97P, 23.98P, 25.00P, 24.00P

XF-AVC

Bit rate: 160 Mbps, 45 Mbps

Resolution: 3840x2160, 1920x1080

Color sampling: 4:2:0, 8 bit

Frame rate: 59.94P, 59.94i, 50.00P, 50.00i, 29.97P, 23.98P, 25.00P, 24.00P

Proxy clips:

MP4

Bit rate: 35 Mbps (Long GOP)

Resolution: 2048x1080

Color sampling: 4:2:0, 8 bit

Frame rate: 59.94P, 50.00P, 29.97P, 23.98P, 25.00P, 24.00P

XF-AVC

Bit rate: 45 Mbps (Long GOP)

Resolution: 2048x1080

Color sampling: 4:2:0, 8 bit

Frame rate: 59.94P, 50.00P, 29.97P, 23.98P, 25.00P, 24.00P

¹ Available options may differ depending on the system frequency currently in use.

- **Recording Media (not included)**

For approximate recording times, refer to the *Reference Tables* (☞ 226)

Primary clips: CFast 2.0 card, SD card² (2 slots)

Proxy clips and photos: SD card² (proxy clips: 2 slots, photos: SD card B)

² SD, SDHC (SD High Capacity) or SDXC (SD eXtended Capacity) memory card. Custom picture files and camera settings can be saved on and read from the SD card as well.

- **Image Sensor** Super-35mm-equivalent CMOS sensor

Effective pixels (approximate):

When the resolution is 4096x2160, 2048x1080: 8,850,000 pixels (4096x2160)

When the resolution is 3840x2160, 1920x1080: 8,290,000 pixels (3840x2160)

- **C200 Viewfinder:** 1.18 cm* (0.46 in.) organic LED display, approx. 1,770,000 dots*, 100% coverage

* When the language is set to simplified Chinese, the values with an asterisk are as follows:

1.09 cm (0.43 in.), approx. 1,555,000 dots.

- **Lens Mount**

Canon EF mount compatible with Canon EF lenses (including EF-S lenses and EF Cinema lenses)

Lens multiplication factor for 35mm equivalent focal length (approximate):

When the resolution is 4096x2160, 2048x1080: 1.460

When the resolution is 3840x2160, 1920x1080: 1.534

- **Lens Correction**

Peripheral illumination/chromatic aberration correction is available for Canon EF lenses³

³ Some lenses are not compatible with in-camera correction.

- **Shutter Speed**

Speed (1/3-stop increments, 1/4-stop increments), angle, clear scan, slow, off

- **Iris:** Manual (1/2-stop increments, 1/3-stop increments, fine-tuning), push auto iris, automatic aperture

- **ISO Speed**

ISO 100⁴, ISO 125⁴, ISO 160 to ISO 25600, ISO 32000⁴ to ISO 102400⁴ (1-stop or 1/3-stop increments)

⁴ With extended ISO/Gain range.

- **Gain**

[Normal]: -6 dB to 54 dB (3-dB increments)

[Fine]: -2 dB to 54 dB (0.5-dB increments)

- **ND Filter:** Built-in (Off, 2, 4, 6, 8⁵ or 10⁵ stops), motor operated

⁵ With extended ND range.

- **Exposure:** AE shift, light metering modes (standard, spotlight, backlight)

- **White Balance**

Custom white balance (two sets, A and B); two preset settings (daylight, 5,600 K⁶ and incandescent lamp, 3,200 K⁶); automatic white balance (AWB); color temperature setting (2,000 K to 15,000 K)

Color temperature and color compensation (CC) adjustment available for all settings except custom white balance and AWB.

⁶ Color temperatures are approximate and given for reference purposes only.

- **Focus**

Manual focus, autofocus (one-shot AF, AF-boosted MF, continuous AF, Face AF); face detection and subject tracking available

AF type: Dual Pixel CMOS AF, contrast-detection AF

- **Sensor Sensitivity (ISO 800, 2000 lux, 89.9% reflection)**

59.94 Hz: F10 (2048x1080 at 59.94P); 50.00 Hz: F11 (2048x1080 at 50.00P)

- **S/N Ratio (ISO 800, using Canon Log 3 gamma, HDMI output)**

53 dB (typical, 3840x2160, at 29.97P (59.94 Hz) or 25.00P (50.00 Hz))

- **Subject Illumination (ISO 25600, with a f/1.2 lens, 100% output)**

59.94 Hz: 0.45 lux (shutter speed 1/30)

50.00 Hz: 0.38 lux (shutter speed 1/25)

- **Built-in microphone:** Monaural electret condenser microphone
- **Size of Photos:** 3840x2160, 2048x1080, 1920x1080

Wi-Fi

- **Wireless Standard:** IEEE802.11b/g/n (2.4 GHz band), IEEE802.11a/n (5 GHz band)
- **Connection Methods:** Infrastructure (Wi-Fi Protected Setup (WPS), search for access points, manual), Camera Access Point
- **Authentication Methods:** Open, shared key; WPA-PSK, WPA2-PSK
- **Encryption Methods:** WEP-64, WEP-128, TKIP, AES

Terminals

- **SDI Terminal**
BNC jack, output only, 0.8 Vp-p / 75 Ω , unbalanced
3G-SDI: SMPTE 424, SMPTE 425, SMPTE ST 299-2
HD-SDI: SMPTE 292, SMPTE ST 299-1
Embedded audio, time code (VITC/LTC)
HDR output (HLG, PQ), LUT (BT.709, ACESproxy) and supplemental displays (superimposed onscreen displays, magnification, waveform monitor) can also be output.
- **HDMI OUT Terminal**
HDMI connector, output only
HDR output (HLG, PQ)
Time code and supplemental displays (superimposed onscreen displays, magnification) can also be output.
- **INPUT Terminals (INPUT 1 and INPUT 2)**
XLR 3-pin jack (pin1: shield, pin2: hot, pin3: cold), 2 sets, balanced
Analog Inputs
Sensitivity:
MIC setting: -60 dBu (volume center, full scale -18 dB) / 600 Ω
LINE setting: 4 dBu (volume center, full scale -18 dB) / 10 k Ω
Microphone attenuator: 20 dB
Digital Inputs (AES/EBU)
AES3 standard (48 kHz, 24 bit, 2ch) / 110 Ω
- **MIC Terminal**
 \varnothing 3.5 mm stereo mini-jack, -72 dBV (volume center, full scale -18 dB) / 5.6 k Ω
Microphone attenuator: 20 dB
- **🎧 (Headphone) Terminal**
 \varnothing 3.5 mm stereo mini-jack, $-\infty$ to -8 dBV (16 Ω load, volume range Min to Max) / 50 Ω or less
- **USB Terminal**
mini-B, Hi-Speed USB, output only
- **REMOTE Terminal**
 \varnothing 2.5 mm stereo sub-mini jack
- **🌐 (Ethernet) Terminal**
Ethernet, 1000BASE-T compatible
- **VIDEO Terminal**
Proprietary connector for the LM-V1 LCD Monitor¹ or optional EVF-V70 Electronic Viewfinder; output only
- **Camera Grip Connection Terminal**
Proprietary connector for the camera grip unit¹ connection plug
¹ Supplied accessory for the C200; optional accessory for the C200B.

Power/Others

- **Power Supply (rated)**

14.4 V DC (battery pack), 16.7 V DC (DC IN)

- **Power Consumption**

C200 with the SDI terminal, LCD screen and viewfinder active

19.3 W (recording at 59.94P; MP4/XF-AVC: 3840x2160, RAW: 4096x2160)

18.5 W (recording at 50.00P; MP4/XF-AVC: 3840x2160, RAW: 4096x2160)

C200B with the SDI terminal active

17.5 W (recording at 59.94P; MP4/XF-AVC: 3840x2160, RAW: 4096x2160)

16.6 W (recording at 50.00P; MP4/XF-AVC: 3840x2160, RAW: 4096x2160)

- **Operating Temperature**

0 – 40 °C (32 – 104 °F)

- **Dimensions (W x H x D)¹**

C200

Camera unit only: 144 x 153 x 179 mm (5.7 x 6.0 x 7.0 in.)

Configuration with camera grip: 178 x 153 x 204 mm (7.0 x 6.0 x 8.0 in.)

Configuration with camera grip, handle unit, LCD monitor, LCD attachment unit and microphone holder: 335 x 275 x 275 mm (1.1 ft. x 10.8 in. x 10.8 in.)

C200B

Camera unit only: 144 x 146 x 137 mm (5.7 x 5.7 x 5.4 in.)

Configuration with thumb rest and microphone holder: 169 x 209 x 137 mm (6.7 x 8.2 x 5.4 in.)

¹ All dimensions are approximate.

- **Weight²**

C200

Camera unit only: 1430 g (3.2 lb.)

Camera with handle unit, LCD monitor, LCD attachment unit, camera grip, microphone holder, eye cup and hex socket head bolt (x1)³: 2,745 g (6.1 lb.)

C200B

Camera unit only: 1,335 g (2.9 lb.)

Configuration with thumb rest and microphone holder³: 1,630 g (3.6 lb.)

² All weights are approximate.

³ Working configuration includes also battery pack (BP-A30), recording media (CFast card), and unit cable (**C200** only).

- **Approximate continuous recording time with a fully charged battery pack:**

C200

Recording at 59.94P; MP4/XF-AVC: 3840x2160, RAW: 4096x2160
125 min. (supplied BP-A30 battery pack),
270 min. (optional BP-A60 battery pack)

Recording at 50.00P; MP4/XF-AVC: 3840x2160, RAW: 4096x2160
130 min. (supplied BP-A30 battery pack),
280 min. (optional BP-A60 battery pack)

C200B

Recording at 59.94P; MP4/XF-AVC: 3840x2160, RAW: 4096x2160
145 min. (supplied BP-A30 battery pack),
310 min. (optional BP-A60 battery pack)

Recording at 50.00P; MP4/XF-AVC: 3840x2160, RAW: 4096x2160
155 min. (supplied BP-A30 battery pack),
325 min. (optional BP-A60 battery pack)

C200 Modular Units

LM-V1 LCD Monitor

Includes the LCD panel (touch panel).

- **LCD Screen:** 10.1 cm (4.0 in.) color LCD, 16:9 aspect ratio, approx. 1,230,000 dots, 100% coverage, capacitive touch screen operation
- **VIDEO Terminal**
Proprietary connector for connection to the camera; input only
- **Dimensions (W x H x D):** 120 x 75 x 37 mm (4.7 x 3.0 x 1.5 in.)
- **Weight:** Approx. 185 g (6.5 oz.)

LA-V1 LCD Attachment Unit

Includes pivots that allow for rotation

- **Dimensions (W x H x D):** 143 x 117 x 75 mm (5.6 x 4.6 x 3.0 in.)
- **Weight:** Approx. 255 g (9.0 oz.)

GR-V1 Camera Grip

Modular unit can be attached at any of 24 positions (6° intervals); includes limited recording controls.

- **Dimensions (W x H x D):** 60 x 124 x 75 mm (2.4 x 4.9 x 3.0 in.)
- **Weight:** Approx. 260 g (9.2 oz.)

HDU-2 Handle Unit

Offers sockets for attaching additional accessories to the camera.

- **Dimensions (W x H x D):** Approx. 44 x 81 x 156 mm (1.7 x 3.2 x 6.1 in.)
- **Weight:** Approx. 220 g (7.8 oz.)

CA-A10 AC Adapter

- **Rated Input:** 100 – 240 V AC, 50/60 Hz, 100 VA (100 V AC) – 124 VA (240 V AC)
- **Rated Output:** 16.7 V DC, 3.0 A
- **Operating Temperature:** 0 – 40 °C (32 – 104 °F)
- **Dimensions (W x H x D):** Approx. 73 x 40 x 139 mm (2.9 x 1.6 x 5.5 in.)
- **Weight:** Approx. 450 g (15.9 oz.)

CG-A20 Battery Charger

- **Rated Input:** 24 V DC, 1.8 A
- **Rated Output:** 16.7 V DC, 1.5 A
- **Operating Temperature:** 0 – 40 °C (32 – 104 °F)
- **Dimensions (W x H x D):** 100 x 24 x 100 mm (3.9 x 0.9 x 3.9 in.)
- **Weight:** Approx. 145 g (5.1 oz.)

CA-CP200B Compact Power Adapter

- **Rated Input:** 100 – 240 V AC, 50/60 Hz, 90 VA (100 V AC) – 120 VA (240 V AC)
- **Rated Output:** 24 V DC, 1.8 A
- **Operating Temperature:** 0 – 40 °C (32 – 104 °F)
- **Dimensions (W x H x D):** 67.5 x 37 x 134 mm (2.7 x 1.5 x 5.3 in.)
- **Weight:** Approx. 290 g (10.2 oz.)

BP-A30 Battery Pack

- **Battery Type**
Rechargeable lithium ion battery, compatible with Intelligent System
- **Rated Voltage:** 14.4 V DC
- **Operating Temperature:** 0 – 40 °C (32 – 104 °F)
- **Rated Battery Capacity:** 3100 mAh / 45 Wh
- **Dimensions (W x H x D):** 41.5 x 45.1 x 69.7 mm (1.6 x 1.8 x 2.7 in.)
- **Weight:** Approx. 225 g (7.9 oz)

Appendix: Compatible Lenses and Functions

Following is a list of lenses compatible with this camera and the various functions that can be used depending on the lens. Depending on the lens's purchase date, you may need to update the lens's firmware to use these functions. For details, consult a Canon Service Center.

| Lens | Iris control from the camera | | | Zoom control from the camera |
|---|------------------------------|----------------|-----------|------------------------------|
| | Manual | Push auto iris | Automatic | |
| EF lenses | ● | ● | – | – |
| EF lenses compatible with auto iris | ● | ● | ● | ●* |
| EF Cinema lenses | | | | |
| CN20x50 IAS H/E1 | ● | ● | ● | ● |
| CN7x17 KAS S/E1 | | | | |
| CN-E18-80mm T4.4 L IS KAS S | ● | ● | ● | ● |
| CN-E70-200mm T4.4 L IS KAS S | | | | |
| Prime lenses compatible with Dual Pixel Focus Guide | – | – | – | – |

* Only for lenses compatible with the optional PZ-E1 Power Zoom Adapter.

| Lens | Focus control from the camera | | | | | Focus guide |
|---|-------------------------------|-------------|---------------|---------|----------|-------------|
| | Manual | One-shot AF | Continuous AF | Face AF | Tracking | |
| EF lenses | ● | ● | ● | ● | ● | ● |
| EF lenses compatible with auto iris | ● | ● | ● | ● | ● | ● |
| EF Cinema lenses | | | | | | |
| CN20x50 IAS H/E1 | ● | – | – | – | – | – |
| CN7x17 KAS S/E1 | | | | | | |
| CN-E18-80mm T4.4 L IS KAS S | ● | ● | ● | ● | ● | ● |
| CN-E70-200mm T4.4 L IS KAS S | | | | | | |
| Prime lenses compatible with Dual Pixel Focus Guide | – | – | – | – | – | ● |

- EF lenses compatible with auto iris:

| | |
|------------------------------|-------------------------------|
| EF-S10-18mm f/4.5-5.6 IS STM | EF-S18-135mm f/3.5-5.6 IS STM |
| EF-S18-55mm f/3.5-5.6 IS STM | EF-S55-250mm f/4-5.6 IS STM |
| EF24-105mm f/3.5-5.6 IS STM | EF-S18-135mm f/3.5-5.6 IS USM |
| EF70-300mm f/4-5.6 IS II USM | EF-S18-55mm f/4-5.6 IS STM |
| EF-S35mm f/2.8 MACRO IS STM | EF85mm f/1.4L IS USM |
- Prime lenses compatible with the Dual Pixel Focus Guide function:

| | |
|-------------------|--------------------|
| CN-E14mm T3.1 L F | CN-E50mm T1.3 L F |
| CN-E24mm T1.5 L F | CN-E85mm T1.3 L F |
| CN-E35mm T1.5 L F | CN-E135mm T2.2 L F |

Reference Tables

Approximate Recording Time on Recording Media

226

Primary clips (CFast card; RAW clips)

| Bit rate → CFast card capacity ↓ | 1 Gbps |
|-------------------------------------|---------|
| 64 GB | 5 min. |
| 128 GB | 15 min. |
| 256 GB | 30 min. |

Primary/Proxy clips (SD card)*

| Format → | MP4 | | XF-AVC | |
|----------------------------------|----------|----------|----------|----------|
| Bit rate → SD card capacity ↓ | 150 Mbps | 35 Mbps | 160 Mbps | 45 Mbps |
| 8 GB | 5 min. | 25 min. | 5 min. | 20 min. |
| 16 GB | 10 min. | 55 min. | 10 min. | 45 min. |
| 32 GB | 25 min. | 120 min. | 25 min. | 90 min. |
| 64 GB | 55 min. | 240 min. | 50 min. | 185 min. |
| 128 GB | 110 min. | 485 min. | 105 min. | 375 min. |

* Times are based on a single recording that continues until the SD card is full.

Charging Times

Use the supplied CG-A20 Battery Charger to charge battery packs. The charging times given in the following table are approximate and vary according to charging conditions and initial charge of the battery pack.

| BP-A30 | BP-A60 |
|----------|----------|
| 170 min. | 300 min. |

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