

EOS C80

Digital Cinema Camera

Firmware ver. 1.0.1.1

Specifications

C80

System

• Recording System

Clips:

RAW

Video format: Cinema RAW Light
 Audio format: Linear PCM, 24 bit, 48 kHz, 4 channels
 File format: CRM (Canon RAW Movie; Canon proprietary file format)

XF-AVC

Video compression: MPEG-4 AVC / H.264
 Audio format: Linear PCM, 24 bit, 48 kHz, 4 channels
 File format: MXF

XF-HEVC S / XF-AVC S

Video compression: XF- HEVC S HEVC / H.265, XF-AVC S MPEG-4 AVC / H.264
 Audio format: Linear PCM, 24 bit, 48 kHz, 2 channels
 MPEG-2 AAC-LC, 16 bit, 48 kHz, 2 channels
 File format: MP4

WAV

Audio format: Audio files for slow & fast motion recording:
 Linear PCM, 24 bit, 48 kHz, 4 channels
 Audio files for the second card recording function:
 Linear PCM, 16 bit, 8 kHz, 1 channel
 File format: BWF

Photos: DCF (Design rule for Camera File system), compatible with Exif Ver. 2.31, JPEG compression

• Video Configuration (recording/playback)

Primary clips:

RAW

Bit rate: 678 Mbps, 639 Mbps, 611 Mbps, 576 Mbps, 563 Mbps, 553 Mbps, 552 Mbps, 470 Mbps, 451 Mbps, 366 Mbps, 306 Mbps, 293 Mbps
 Resolution: 6000x3164, 4368x2304
 Color bit depth: 12 bit
 Frame rate: 59.94P, 50.00P, 29.97P, 25.00P, 24.00P, 23.98P

XF-AVC

Bit rate: 600 Mbps, 500 Mbps, 480 Mbps, 450 Mbps, 375 Mbps, 360 Mbps, 300 Mbps, 250 Mbps, 240 Mbps, 150 Mbps, 125 Mbps, 120 Mbps / Intra-frame, 250 Mbps, 150 Mbps, 50 Mbps, 25 Mbps / Long GOP
 Resolution: 4096x2160, 3840x2160, 2048x1080, 1920x1080
 Color sampling: YCbCr 4:2:2, 10 bit
 Frame rate: 59.94P, 59.94i, 50.00P, 50.00i, 29.97P, 25.00P, 24.00P, 23.98P

XF-HEVC S / XF-AVC S

Bit rate: XF-HEVC S:
 225 Mbps, 150 Mbps, 135 Mbps, 100 Mbps, 50 Mbps, 35 Mbps / Long GOP
 XF-AVC S:
 600 Mbps, 500 Mbps, 480 Mbps, 450 Mbps, 375 Mbps, 360 Mbps, 300 Mbps, 250 Mbps, 240 Mbps, 150 Mbps, 125 Mbps, 120 Mbps / Intra-frame
 250 Mbps, 150 Mbps, 100 Mbps, 50 Mbps, 35 Mbps / Long GOP
 Resolution: 4096x2160, 3840x2160, 2048x1080, 1920x1080

Color sampling:	XF-HEVC S: 4:2:2 10 bit, 4:2:0 10 bit XF-AVC S: 4:2:2 10 bit, 4:2:0 8 bit
Frame rate:	59.94P, 50.00P, 29.97P, 25.00P, 24.00P, 23.98P

Sub recording clips:

XF-AVC

Bit rate:	600 Mbps, 500 Mbps, 480 Mbps, 450 Mbps, 375 Mbps, 360 Mbps, 300 Mbps, 250 Mbps, 240 Mbps, 150 Mbps, 125 Mbps, 120 Mbps / Intra-frame, 250 Mbps, 150 Mbps, 50 Mbps, 25 Mbps / Long GOP
Resolution:	4096x2160, 3840x2160, 2048x1080, 1920x1080
Color sampling:	YCbCr 4:2:2, 10 bit
Frame rate:	59.94P, 59.94i, 50.00P, 50.00i, 29.97P, 25.00P, 24.00P, 23.98P

XF-HEVC S / XF-AVC S

Bit rate:	XF-HEVC S: 225 Mbps, 150 Mbps, 135 Mbps, 100 Mbps, 50 Mbps, 35 Mbps / Long GOP XF-AVC S: 600 Mbps, 500 Mbps, 480 Mbps, 450 Mbps, 375 Mbps, 360 Mbps, 300 Mbps, 250 Mbps, 240 Mbps, 150 Mbps, 125 Mbps, 120 Mbps / Intra-frame 250 Mbps, 150 Mbps, 100 Mbps, 50 Mbps, 35 Mbps / Long GOP
Resolution:	4096x2160, 3840x2160, 2048x1080, 1920x1080
Color sampling:	XF-HEVC S: 4:2:2 10 bit, 4:2:0 10 bit XF-AVC S: 4:2:2 10 bit, 4:2:0 8 bit
Frame rate:	59.94P, 50.00P, 29.97P, 25.00P, 24.00P, 23.98P

Proxy clips:

XF-AVC

Bit rate:	35 Mbps / Long GOP
Resolution:	2048x1080, 1920x1080
Color sampling:	YCbCr 4:2:0, 8 bit
Frame rate:	59.94P, 59.94i, 50.00P, 50.00i, 29.97P, 25.00P, 24.00P, 23.98P

XF-HEVC S / XF-AVC S

Bit rate:	16 Mbps, 9 Mbps, 6 Mbps / Long GOP
Resolution:	2048x1080, 1920x1080, 1280x720
Color sampling:	XF-HEVC S: 4:2:0 10 bit, 4:2:0 8 bit XF-AVC S: 4:2:0 8 bit
Frame rate:	59.94P, 50.00P, 29.97P, 23.98P, 25.00P, 24.00P

- **Recording Media (not included)**

SD, SDHC (SD High Capacity) or SDXC (SD eXtended Capacity) cards

- **Image Sensor**

Full frame back-illuminated stacked CMOS sensor

Total number of pixels¹ (approximate): 26,700,000 pixels

Effective camera pixels¹ (approximate): 19,000,000 pixels

¹ Rounded to the nearest 10,000.

- **LCD Touch Screen**

8.8 cm (3.5 in.) color LCD, approx. 2,760,000 dots, 100% coverage, capacitive touch screen operation

- View assistance functions can be applied (Gamma: CMT 709 equivalent, Canon 709 equivalent, original / Color space: BT.709 equivalent) and assistance displays can be output (onscreen displays, peaking, zebra pattern, magnification, B&W image, video scope, false color, anamorphic desqueeze).

- **Lens Mount**

Canon RF lens mount compatible with Canon RF/EF/PL lenses¹

¹ RF lenses include RF-S lenses and RF Cinema lenses. One of the available Canon EF-EOS R Mount Adapters is required for using EF lenses (including EF-S and EF Cinema lenses). PL lenses can be used when a PL-RF Mount Adapter is attached.

- **Approximate lens multiplication factor (for 35mm equivalent focal length)**

[Full Frame] sensor mode:

Actual focal length¹ x 1.06² (when the horizontal resolution is 6000/4096/2048)

Actual focal length¹ x 1.12² (when the horizontal resolution is 3840/1920)

[Super 35mm (Cropped)] sensor mode:

Actual focal length¹ x 1.46² (when the horizontal resolution is 4368/4096/2048)

Actual focal length¹ x 1.54² (when the horizontal resolution is 3840/1920)

¹ Lens focal length

² Conversion factor

- **Lens Correction**

Peripheral illumination/chromatic aberration/diffraction correction is available for Canon RF, EF and RF/EF Cinema lenses²

Distortion aberration correction is available only for Canon RF and RF Cinema lenses

² 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 adjustment available), push auto iris, automatic aperture

- **ISO Speed/Gain**

Manual, automatic adjustment

ISO speed ([1 stop] and [1/3 stop] settings): ISO 100 to ISO 102400

Gain ([Normal] and [Fine] settings): -6 dB to 54 dB

- **ND Filter**

Built-in (Off, 2, 4, 6, 8⁴ or 10⁴ stops), motor operated

⁴ 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 K⁵ and tungsten lamp, 3,200 K⁵); color temperature setting (2,000 K to 15,000 K); automatic white balance (AWB)

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

⁵ Color temperatures are approximate and given only as a reference.

- **Focus**

Manual focus, autofocus (one-shot AF, continuous AF, subject detection AF); subject tracking available
AF type: Dual Pixel CMOS AF

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

59.94 Hz: F10 (at 59.94P), F14 (at 29.97P)

50.00 Hz: F11 (at 50.00P), F16 (at 25.00P)

- **Wi-Fi**
 Wireless standard: IEEE 802.11b/g/n (2.4 GHz band), IEEE 802.11a/n/ac (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/WPA2/WPA3-Personal, WPA/WPA2/WPA3-Enterprise
 Encryption methods: WEP-64, WEP-128, TKIP, AES
- **Microphone**
 Electret condenser microphone (monaural)
- **Size of Photos**
 4096x2160, 3840x2160

Terminals

- **SDI OUT Terminal**
 BNC jack
 Video: HD: SMPTE 292
 3G: SMPTE 424, SMPTE 425
 6G: SMPTE ST 2081
 12G: SMPTE ST 2082
 Audio: SMPTE ST 299-1, SMPTE ST 299-2
 Output signal level: 0.8 Vp-p
 Output impedance: 75 Ω
- **HDMI OUT Terminal**
 HDMI connector, output only
 The time code signal can be output (proprietary standard)
 Video/audio output: Conforming to HDMI specifications.
- **INPUT Terminals (INPUT 1 and INPUT 2)**
 Mini XLR 3-pin jack (pin1: shield, pin2: hot, pin3: cold), 2 sets, balanced
 Sensitivity:
 MIC setting: -60 dBu (volume center, full scale -18 dB) / microphone attenuator: 20 dB
 LINE setting: 4 dBu (volume center, full scale -18 dB)
- **MIC Terminal**
 $\varnothing$ 3.5 mm stereo mini-jack
 Sensitivity:
 [MIC (with Power Supply)] setting:
 -72 dBV (volume center, full scale -18 dB) / microphone attenuator: 20 dB
 Plug-in power supply: 2.4 V DC
 [LINE] setting: -12 dBV (volume center, full scale -18 dB)
- **🎧 (Headphone) Terminal**
 $\varnothing$ 3.5 mm stereo mini-jack, -17 dBV (32 Ω load, Max volume)
- **TIME CODE Terminal**
 BNC jack, input/output
 Input setting: 0.5 Vp-p to 18 Vp-p / 100 k Ω ; Output setting: 1.3 Vp-p / 50 Ω or less
- **USB Terminal**
 USB Type-C™ equivalent to SuperSpeed USB (USB 3.1 Gen 1)
- **REMOTE Terminal**
 $\varnothing$ 2.5 mm stereo sub-mini jack
- **Ethernet Terminal**
 RJ45 connector (1000BASE-T supported)

- **Multi-Function Shoe Terminal**
Proprietary Canon connector

Power/Others

- **Power Supply (rated)**
14.4 V DC (battery pack), 24 V DC (DC IN)
- **Power Consumption / Continuous Recording Time (with a BP-A30N) / Continuous Recording Time (with a BP-A60N)**
The values were measured using normal recording (second card recording function turned off) with an RF50mm F1.8 STM lens attached, LCD luminance set to [Normal], and using the SDI OUT terminal (3G-SDI). RAW
Approx. 14.5 W / 170 min. / 355 min. ([Full Frame] sensor, RAW LT, 6000x3164 at 29.97P)
Approx. 13.7 W / 180 min. / 380 min. ([Full Frame] sensor, RAW LT, 6000x3164 at 25.00P)
Approx. 18.2 W / 135 min. / 280 min. ([Super 35mm (Cropped)] sensor, RAW LT, 4368x2304 at 59.94P)
Approx. 16.8 W / 145 min. / 305 min. ([Super 35mm (Cropped)] sensor, RAW LT, 4368x2304 at 50.00P)
XF-AVC
Approx. 19.6 W / 125 min. / 255 min. ([Full Frame] sensor, 3840x2160 at 59.94P)
Approx. 17.9 W / 140 min. / 290 min. ([Full Frame] sensor, 3840x2160 at 50.00P)
Approx. 17.9 W / 140 min. / 290 min. ([Super 35mm (Cropped)] sensor, 2048x1080 at 59.94P)
Approx. 16.5 W / 150 min. / 320 min. ([Super 35mm (Cropped)] sensor, 2048x1080 at 50.00P)
- **Operating Temperature**
0 – 40 °C (32 – 104 °F)
- **Dimensions (W x H x D)⁶**
Camera body only: 160 x 138 x 116 mm (6.3 x 5.4 x 4.6 in.)
Camera with handle unit, microphone holder: 160 x 276 x 173 mm (6.3 x 10.9 x 6.8 in.)
- **Weight⁶ (including tape measure hook and grip belt)**
Camera body: 1,310 g (2.9 lb.)
Camera with BP-A30N battery, 2 cards: 1,545 g (3.4 lb.)
Camera with handle unit, microphone holder, BP-A30N battery, 2 cards: 1,750 g (3.9 lb.)

Accessories

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)
- **Dimensions⁶ (W x H x D):** 100 x 24 x 100 mm (3.9 x 0.9 x 3.9 in.)
- **Weight⁶:** 145 g (5.1 oz.)

CA-CP300 B Compact Power Adapter

- **Rated Input:** 100 – 240 V AC, 50/60 Hz, 0.88 A (100 V) – 0.43 A (240 V)
- **Rated Output:** 24 V DC, 1.8 A
- **Operating Temperature:** 0 – 40 °C (32 – 104 °F)
- **Dimensions⁶ (W x H x D):** 52.0 x 31.5 x 128.0 mm (2.0 x 1.2 x 5.0 in.)
- **Weight⁶:** 219 g (7.7 oz.)

BP-A30N Battery Pack

- **Battery Type:** Rechargeable lithium ion battery, compatible with Intelligent System
- **Rated Voltage:** 14.4 V DC
- **Rated Battery Capacity:** 3,200 mAh / 47 Wh
- **Operating Temperature:** 0 – 40 °C (32 – 104 °F)
- **Dimensions⁶ (W x H x D):** 41.5 x 45.1 x 69.7 mm (1.6 x 1.8 x 2.7 in.)
- **Weight⁶:** 243 g (8.6 oz.)

⁶ All dimensions and weights are approximate.

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, visit your local Canon website or consult a Canon Service Center.

PL mount lenses can only be used after attaching the optional PL-RF Mount Adapter. In addition, connection to an external power source is required for lenses equipped with a drive unit.

Lens	Iris control from the camera			Zoom control from the camera
	Manual	Push auto iris	Automatic	
RF lenses	● ²	● ²	● ²	● ⁵
EF lenses ¹	●	●	—	● ³
EF lenses compatible with auto iris	●	●	●	—
RF / EF ¹ Cinema lenses / PL ¹ lenses				
CN7x17 KAS S/E1 ⁴ CN10x25 IAS S/E1 ⁴ CN20x50 IAS H/E1 ⁴ CN8x15 IAS S/E1 ⁴	●	●	●	●
CN-E18-80mm T4.4 L IS KAS S CN-E70-200mm T4.4 L IS KAS S CN7x17 KAS T/R1	●	●	●	●
CN7x17 KAS S/P1 ⁴ CN20x50 IAS H/P1 ⁴ CN10x25 IAS S/P1 ⁴ CN8x15 IAS S/P1 ⁴ CN7x17 KAS T/P1 ⁴	—	—	—	—
Manual focus lenses compatible with focus guide	—	—	—	—
CN-E15.5-47mm T2.8 L S				
CN-E15.5-47mm T2.8 L SP				
CN-E30-105mm T2.8 L S CN-E30-105mm T2.8 L SP				

¹ A mount adapter is required.

² Except for the RF600mm F11 IS STM, RF800mm F11 IS STM.

³ Only lenses with the PZ-E1 Power Zoom Adapter attached.

⁴ The AE response setting (☐ 198) is not supported (not applicable).

⁵ Only lenses with the PZ-E2 Power Zoom Adapter attached.

- EF lenses compatible with auto iris:

EF85mm F1.4L IS USM

EF400mm F2.8L IS III USM

EF70-200mm F4L IS II USM

EF600mm F4L IS III USM

Lens	Focus control from the camera					Focus guide
	Manual	One-shot AF	Continuous AF	Subject detection AF	Tracking	
RF / EF ¹ lenses	● ²	● ²	● ²	● ²	● ²	●
RF / EF ¹ Cinema lenses, PL ¹ lenses						
CN7x17 KAS S/E1 CN7x17 KAS T/R1 CN8x15 IAS S/E1 CN10x25 IAS S/E1	●	●	●	●	●	●
CN20x50 IAS H/E1	●	—	—	—	—	—
CN7x17 KAS S/P1 CN20x50 IAS H/P1 CN10x25 IAS S/P1 CN8x15 IAS S/P1 CN7x17 KAS T/P1	—	—	—	—	—	—
CN-E18-80mm T4.4 L IS KAS S, CN-E70-200mm T4.4 L IS KAS S	●	●	●	●	●	●
Manual focus lenses compatible with focus guide	—	—	—	—	—	●

¹ A mount adapter is required.

² Except for the RF5.2mm F2.8 L Dual Fisheye lens.

- Manual focus lenses compatible with focus guide:

CN-E14mm T3.1 L F	CN-E50mm T1.3 L F
CN-E20mm T1.5 L F	CN-E85mm T1.3 L F
CN-E24mm T1.5 L F	CN-E135mm T2.2 L F
CN-E35mm T1.5 L F	CN-E20-50mm T2.4 L F
CN-E14-35mm T1.7 L S	CN-E45-135mm T2.4 L F
CN-E31.5-95mm T1.7 L S	CN-R24mm T1.5 L F
CN-R35mm T1.5 L F	CN-R50mm T1.3 L F
CN-R85mm T1.3 L F	CN-R14mm T3.1 L F
CN-R20mm T1.5 L F	CN-R135mm T2.2 L F

- Lenses compatible with automatic retraction when the camera is turned off (📖 210).

RF35mm F1.8 MACRO IS STM	EF50mm F1.8 STM
EF40mm F2.8 STM	EF-S24mm F2.8 STM
RF85mm F2 MACRO IS STM	RF50mm F1.8 STM
RF24mm F1.8 MACRO IS STM	RF16mm F2.8 STM

Reference Tables

Approximate Recording Time on a Card

Approximate times, for reference only, based on a single recording that continues until the card is full.

Recording format	Bit rate	128 GB	512 GB	Recording format	Bit rate	128 GB	512 GB
RAW	678 Mbps	23 min.	92 min.	XF-HEVC S	225 Mbps	70 min.	282 min.
	639 Mbps	24 min.	99 min.		150 Mbps	105 min.	422 min.
	563 Mbps	28 min.	112 min.		135 Mbps	117 min.	471 min.
	552 Mbps	28 min.	114 min.		100 Mbps	158 min.	635 min.
	451 Mbps	34 min.	139 min.		50 Mbps	309 min.	1237 min.
	366 Mbps	42 min.	171 min.		35 Mbps	435 min.	1740 min.
	293 Mbps	53 min.	213 min.	XF-AVC S	600 Mbps	26 min.	106 min.
XF-AVC	600 Mbps	26 min.	105 min.		480 Mbps	33 min.	133 min.
	480 Mbps	32 min.	131 min.		450 Mbps	35 min.	142 min.
	450 Mbps	35 min.	140 min.		360 Mbps	44 min.	177 min.
	360 Mbps	43 min.	174 min.		300 Mbps	53 min.	212 min.
	300 Mbps	51 min.	206 min.		250 Mbps	63 min.	254 min.
	250 Mbps	61 min.	245 min.		240 Mbps	66 min.	266 min.
	240 Mbps	64 min.	259 min.		150 Mbps	105 min.	422 min.
	150 Mbps	101 min.	406 min.		120 Mbps	132 min.	531 min.
	120 Mbps	125 min.	502 min.		100 Mbps	158 min.	635 min.
	50 Mbps	261 min.	1044 min.		50 Mbps	309 min.	1237 min.
	25 Mbps	485 min.	1943 min.		35 Mbps	435 min.	1740 min.

Charging Times

Charging times are approximate and vary according to charging conditions, ambient temperature and initial charge of the battery pack.

Battery pack	BP-A30N	BP-A60N
Charging time using the supplied CG-A20 Battery Charger	175 min.	310 min.