

# EOS R5C

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Digital Cinema Camera

Firmware ver. 1.0.2.1

# Specifications

## R5 C

### 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

##### MP4

Video compression: H.265 / HEVC, MPEG-4 AVC / H.264  
 Audio format: Linear PCM, 16 bit, 48 kHz, 4 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 second card recording functions  
 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: 2570 Mbps, 2140 Mbps, 2120 Mbps, 2090 Mbps, 1980 Mbps, 1770 Mbps, 1750 Mbps, 1700 Mbps, 1650 Mbps, 1580 Mbps, 1360 Mbps, 1290 Mbps, 1140 Mbps, 1080 Mbps, 1070 Mbps, 1050 Mbps, 1030 Mbps, 896 Mbps, 871 Mbps, 836 Mbps, 679 Mbps, 566 Mbps, 544 Mbps, 537 Mbps, 529 Mbps, 448 Mbps, 441 Mbps, 430 Mbps, 344 Mbps, 287 Mbps, 265 Mbps, 221 Mbps, 212 Mbps, 172 Mbps, 144 Mbps, 138 Mbps  
 Resolution: 8192x4320, 5952x3140, 2976x1570  
 Color bit depth: 12 bit  
 Frame rate: 59.94P, 50.00P, 29.97P, 25.00P, 24.00P, 23.98P

##### XF-AVC

Bit rate: 810 Mbps, 410 Mbps, 310 Mbps, 160 Mbps / Intra-frame, 260 Mbps, 160 Mbps, 50 Mbps, 24 Mbps / Long GOP  
 Resolution: 4096x2160, 3840x2160, 2048x1080, 1920x1080, 1280x720  
 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

##### MP4

Bit rate: 540 Mbps, 400 Mbps, 225 Mbps, 170 Mbps, 150 Mbps, 135 Mbps, 100 Mbps, 50 Mbps, 35 Mbps, 12 Mbps, 9 Mbps, 8 Mbps / Long GOP  
 Resolution: 8192x4320, 7680x4320, 4096x2160, 3840x2160, 2048x1080, 1920x1080, 1280x720  
 Color sampling: YCbCr 4:2:2 10 bit, 4:2:0 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:	410 Mbps, 310 Mbps, 160 Mbps / Intra-frame, 260 Mbps, 160 Mbps, 50 Mbps, 24 Mbps / Long GOP
Resolution:	4096x2160, 3840x2160, 2048x1080, 1920x1080, 1280x720
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

## MP4

Bit rate:	225 Mbps, 170 Mbps, 150 Mbps, 135 Mbps, 100 Mbps, 50 Mbps, 35 Mbps, 12 Mbps, 9 Mbps, 8 Mbps / Long GOP
Resolution:	4096x2160, 3840x2160, 2048x1080, 1920x1080, 1280x720
Color sampling:	YCbCr 4:2:2 10 bit, 4:2:0 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, 24 Mbps, 17 Mbps / Long GOP
Resolution:	2048x1080, 1920x1080, 1280x720
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

## MP4

Bit rate:	9 Mbps, 6 Mbps / Long GOP
Resolution:	2048x1080, 1920x1080, 1280x720
Color sampling:	4:2:0 8 bit
Frame rate:	59.94P, 50.00P, 29.97P, 25.00P, 23.98P

- **Recording Media (not included)**

Main clips: CFexpress cards compliant with CFexpress 2.0 Type B specifications, SD, SDHC (SD High Capacity) or SDXC (SD eXtended Capacity) cards

Proxy clips/photos: SD, SDHC (SD High Capacity) or SDXC (SD eXtended Capacity) cards<sup>1</sup>

<sup>1</sup> Used also to save/read other files in addition to proxy files.

- **Image Sensor**

Full frame CMOS sensor

Effective pixels (approximate, with [Full Frame] sensor mode):

35,400,000 pixels (8192x4320) when the resolution is 8192x4320 / 4096x2160 / 2048x1080

33,200,000 pixels (7680x4320) when the resolution is 7680x4320 / 3840x2160 / 1920x1080

Effective pixels (approximate, with [Super 35mm (Cropped)] sensor mode):

18,700,000 pixels (5952x3140) when the resolution is 5952x3140 / 4096x2160 / 2048x1080

17,500,000 pixels (5580x3140) when the resolution is 3840x2160 / 1920x1080

Effective pixels (approximate, with [Super 16mm (Cropped)] sensor mode):

4,700,000 pixels (2976x1570) when the resolution is 2976x1570 / 2048x1080

4,400,000 pixels (2790x1570) when the resolution is 1920x1080 / 1280x720

- **LCD Touch Screen**

8.01 cm (3.2 in.) color LCD, 3:2 aspect ratio, approx. 2,100,000 dots, 100% coverage, capacitive touch screen operation

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

- **Viewfinder**

1.29 cm (0.5 in.) organic LED display, approx. 5,760,000 dots, 100% coverage

- View assistance (Gamma: equivalent to BT.709 Wide DR/original, Color space: equivalent to BT.709)

- 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 and EF<sup>2</sup> lenses

<sup>2</sup> One of the available Canon EF-EOS R Mount Adapters is required for using EF lenses (including EF-S and EF Cinema lenses).

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

[Super 35mm (Cropped)] sensor mode:

1.460 when the horizontal resolution is 5952/4096/2048

1.534 when the horizontal resolution is 3840/1920/1280

[Super 16mm (Cropped)] sensor mode:

2.920 when the horizontal resolution is 2976/2048

3.069 when the horizontal resolution is 1920/1280

- **Lens Correction**

Peripheral illumination/chromatic aberration/diffraction correction is available for Canon RF, EF and EF Cinema lenses<sup>3</sup>

Distortion aberration correction is available only for Canon RF lenses<sup>3</sup>

<sup>3</sup> 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], [1/3 stop]): 100 to 102400

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

- **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 K<sup>4</sup> and tungsten lamp, 3,200 K<sup>4</sup>); color temperature setting (2,000 K to 15,000 K); automatic white balance (AWB)

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

<sup>4</sup> Color temperatures are approximate and given only as a reference.

- **Focus**

Manual focus, autofocus (one-shot AF, continuous AF ([Only Around Focus Point], [Enable]), Face AF); face detection and subject tracking available

AF type: Dual Pixel CMOS AF

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

59.94 Hz: F10 (2048x1080 at 59.94P), F14 (1920x1080 at 29.97P)

50.00 Hz: F11 (2048x1080 at 50.00P), F16 (1920x1080 at 25.00P)

- **Built-in Microphone**

Monaural microphone

- **Size of Photos**

8192x4320, 7680x4320, 4096x2160, 3840x2160, 2048x1080, 1920x1080

## Terminals

- **HDMI OUT Terminal**

HDMI micro terminal (Type D), output only

View assistance (Gamma: equivalent to BT.709 Wide DR, Color space: equivalent to BT.709)

- Assistance displays can be output (onscreen displays, peaking, zebra pattern, magnification, B&W image, video scope, false color, anamorphic desqueeze).

- **MIC Terminal**  
 Ø 3.5 mm stereo mini-jack  
 Sensitivity:  
 –72 dBV (volume center, full scale –18 dB) / microphone attenuator: 20 dB  
 Plug-in power supply: 2.0 V DC
- **Ⓜ (Headphone) Terminal**  
 Ø 3.5 mm stereo mini-jack, –17 dBV (32 Ω load, Max volume)
- **TIME CODE Terminal**  
 DIN 1.0/2.3 jack, input/output  
 Input setting: 0.5 Vp-p to 18 Vp-p / 100 kΩ; Output setting: 1.3 Vp-p / 50 Ω or less
- **Digital Terminal**  
 USB Type-C™ receptacle equivalent to SuperSpeed Plus USB (USB 3.1 Gen 2)

### Others

- **Operating Temperature**  
 0 – 40 °C (32 – 104 °F)
- **Dimensions (W x H x D)<sup>5</sup>**  
 Camera body only: 142 x 101 x 111 mm (5.6 x 4.0 x 4.4 in.) (excluding protrusions)
- **Weight<sup>5</sup> (including tape measure hook and grip belt)**  
 Camera body: 680 g (1.5 lb.)  
 Camera with LP-E6NH Battery Pack, a CFexpress card and an SD card: 770 g (1.7 lb.)

## Accessories

### LC-E6/LC-E6E Battery Charger

- **Rated Input:** 100-240 V AC (50/60 Hz)
- **Rated Output:** 8.4 V DC, 1.0 A
- **Operating Temperature:** 5 – 40 °C (41 – 104 °F)
- **Dimensions<sup>5</sup> (W x H x D):** 69.0 x 33.0 x 93.0 mm (2.7 x 1.3 x 3.7 in.)
- **Weight<sup>5</sup>**  
 LC-E6: 110 g (3.9 oz.)  
 LC-E6E: 100 g (3.5 oz.) (excluding power cord)

### LP-E6NH Battery Pack

- **Battery Type:** Rechargeable lithium ion battery
- **Rated Voltage:** 7.2 V DC
- **Battery Capacity:** 2,130 mAh
- **Operating Temperature:** 0 – 40 °C (32 – 104 °F)
- **Dimensions<sup>5</sup> (W x H x D):** 38.4 x 21.0 x 56.8 mm (1.51 x 0.83 x 2.24 in.)
- **Weight<sup>5</sup>:** 80 g (2.82 oz.) (excluding protective cover)

<sup>5</sup> 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.

Lens	Iris control from the camera			Zoom control from the camera
	Manual	Push auto iris	Automatic	
RF lenses	● <sup>1</sup>	● <sup>1</sup>	● <sup>1</sup>	–
EF lenses <sup>2</sup>	●	●	–	–
EF lenses compatible with auto iris	●	●	●	● <sup>3</sup>
EF Cinema lenses <sup>2</sup>				
CN7x17 KAS S/E1 <sup>4</sup> CN10x25 IAS S/E1 <sup>4</sup> CN20x50 IAS H/E1 <sup>4</sup>	●	●	●	●
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				
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	–	–	–	–

<sup>1</sup> Except for the RF600mm F11 IS STM, RF800mm F11 IS STM.

<sup>2</sup> One of the available Canon EF-EOS R Mount Adapters is required for using EF lenses (including EF-S and EF Cinema lenses).

<sup>3</sup> Only lenses with the PZ-E1 Power Zoom Adapter attached.

<sup>4</sup> The AE response setting (☐ 189) is not supported (not applicable).

- EF lenses compatible with auto iris:

EF24-105mm f/3.5-5.6 IS STM  
 EF70-200mm f/4L IS II USM  
 EF70-300mm f/4-5.6 IS II USM  
 EF85mm f/1.4L IS USM  
 EF400mm f/2.8L IS III USM  
 EF600mm f/4L IS III USM

EF-S10-18mm f/4.5-5.6 IS STM  
 EF-S18-55mm f/3.5-5.6 IS STM  
 EF-S18-55mm f/4-5.6 IS STM  
 EF-S18-135mm f/3.5-5.6 IS STM  
 EF-S18-135mm f/3.5-5.6 IS USM  
 EF-S35mm f/2.8 MACRO IS STM  
 EF-S55-250mm f/4-5.6 IS STM

Lens	Focus control from the camera					Focus guide
	Manual	One-shot AF	Continuous AF	Face AF	Tracking	
RF lenses / EF lenses <sup>1</sup>	● <sup>2</sup>	● <sup>2</sup>	● <sup>2</sup>	● <sup>2</sup>	● <sup>2</sup>	●
EF lenses not compatible with autofocus while slow & fast motion recording is activated	●	–	–	–	–	●
EF Cinema lenses <sup>1</sup>						
CN7x17 KAS S/E1 CN10x25 IAS S/E1	●	●	●	●	●	●
CN20x50 IAS H/E1	●	–	–	–	–	–
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	–	–	–	–	–	●

<sup>1</sup> One of the available Canon EF-EOS R Mount Adapters is required for using EF lenses (including EF-S and EF Cinema lenses).

<sup>2</sup> 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

- EF lenses not compatible with autofocus while slow & fast motion recording is activated:

EF24-105mm f/3.5-5.6 IS STM

EF-S18-135mm f/3.5-5.6 IS STM

EF70-300mm f/4-5.6 IS II USM

EF-S18-135mm f/3.5-5.6 IS USM

EF-S10-18mm f/4.5-5.6 IS STM

EF-S35mm f/2.8 MACRO IS STM

EF-S18-55mm f/3.5-5.6 IS STM

EF-S55-250mm f/4-5.6 IS STM

EF-S18-55mm f/4-5.6 IS STM

- Lenses compatible with automatic retraction when the camera is turned off (📖 199).

RF35mm F1.8 MACRO IS STM

EF50mm f/1.8 STM

EF40mm f/2.8 STM

EF-S24mm f/2.8 STM

RF85mm F2 MACRO IS STM

RF50mm F1.8 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.

#### CFexpress card

Main recording format	Bit rate	512 GB
RAW	2570 Mbps	24 min.
	2120 Mbps	30 min.
	2090 Mbps	30 min.
	1980 Mbps	32 min.
	1700 Mbps	37 min.
	1580 Mbps	40 min.
	1360 Mbps	47 min.
	1290 Mbps	49 min.
	1080 Mbps	59 min.
	1030 Mbps	62 min.
XF-AVC	836 Mbps	76 min.
	810 Mbps	79 min.
	410 Mbps	156 min.
	310 Mbps	207 min.
	260 Mbps	246 min.
MP4 (HEVC) MP4 (H.264)	160 Mbps	401 min.
	540 Mbps	118 min.
	400 Mbps	160 min.
	225 Mbps	285 min.
	170 Mbps	377 min.
	150 Mbps	428 min.
	135 Mbps	475 min.
	100 Mbps	642 min.
	50 Mbps	1,284 min.
35 Mbps	1,834 min.	



## SD Card

Recording format	Bit rate	128 GB	512 GB
RAW	544 Mbps	29 min.	118 min.
	537 Mbps	29 min.	119 min.
	529 Mbps	30 min.	121 min.
	430 Mbps	37 min.	149 min.
	344 Mbps	46 min.	186 min.
	265 Mbps	60 min.	242 min.
	212 Mbps	75 min.	302 min.
	172 Mbps	93 min.	373 min.
	138 Mbps	116 min.	465 min.
XF-AVC	410 Mbps	39 min.	156 min.
	310 Mbps	51 min.	207 min.
	260 Mbps	61 min.	246 min.
	160 Mbps	100 min.	401 min.
	50 Mbps	321 min.	1,284 min.
	35 Mbps	458 min.	1,834 min.
	24 Mbps	668 min.	2,675 min.
	17 Mbps	944 min.	3,776 min.
MP4 (HEVC) MP4 (H.264)	540 Mbps	29 min.	118 min.
	400 Mbps	40 min.	160 min.
	225 Mbps	71 min.	285 min.
	170 Mbps	94 min.	377 min.
	150 Mbps	107 min.	428 min.
	135 Mbps	118 min.	475 min.
	100 Mbps	160 min.	642 min.
	50 Mbps	321 min.	1,284 min.
	35 Mbps	458 min.	1,834 min.

## Approximate Continuous Video Recording Times

Refer to the following table for the approximate continuous recording times when using the supplied LP-E6NH Battery Pack (fully charged).

The values were measured while recording to a CFexpress card (second card recording functions turned off), with an RF 50mm F1.2 USM lens attached and using the LCD screen (with [LCD Luminance] set to [Normal]).

Video configuration				Power consumption	Approximate continuous recording times (LP-E6NH)
Sensor mode	Resolution	Frame rate	Bit rate		
<b>RAW</b>					
Full frame	8192 x 4320	29.97P	1980 Mbps	11.7	45
		25.00P	1650 Mbps	10.5	50
Super 35mm (Cropped)	5952 x 3140	59.94P	2090 Mbps	15.8	30
		50.00P	1750 Mbps	13.9	35
Super 16mm (Cropped)	2976 x 1570	59.94P	1080 Mbps	9.1	65
		50.00P	896 Mbps	8.4	70
<b>XF-AVC</b>					
Full frame	4096 x 2160	59.94P	810 Mbps	14.8	30
		50.00P		13.3	35
Super 35mm (Cropped)	4096 x 2160	59.94P	810 Mbps	14.8	35
		50.00P		13.3	35
Super 16mm (Cropped)	2048 x 1080	59.94P	310 Mbps	8.5	70
		50.00P		8.0	75
<b>MP4 (HEVC)</b>					
Full frame	8192 x 4320	29.97P	540 Mbps	12.7	40
		25.00P		11.2	45
	4096 x 2160	59.94P	225 Mbps	14.5	35
		50.00P		12.9	40
Super 35mm (Cropped)	4096 x 2160	59.94P	225 Mbps	14.7	35
		50.00P		12.9	40
Super 16mm (Cropped)	2048 x 1080	59.94P	50 Mbps	8.4	70
		50.00P		7.7	80
<b>MP4 (H.264)</b>					
Full frame	4096 x 2160	59.94P	150 Mbps	14.4	35
		50.00P		12.8	35
Super 35mm (Cropped)	4096 x 2160	59.94P	150 Mbps	14.4	35
		50.00P		12.8	40
Super 16mm (Cropped)	2048 x 1080	59.94P	35 Mbps	8.2	75
		50.00P		7.7	80

## Charging Times

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

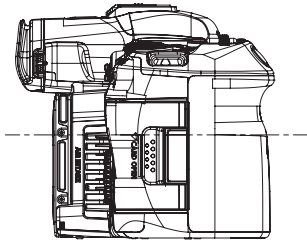
Battery pack	LP-E6NH
Charging time using the supplied LC-E6/LC-E6E Battery Charger	180 min.

## Appendix: Camera Dimensions

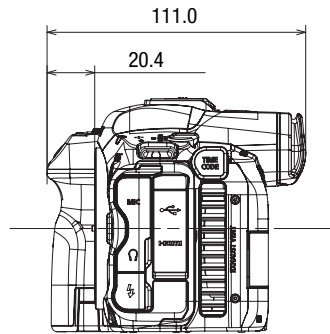
Unless indicated with the " (inch) mark, all units are in mm. ∇ represents the depth of a hole or socket.

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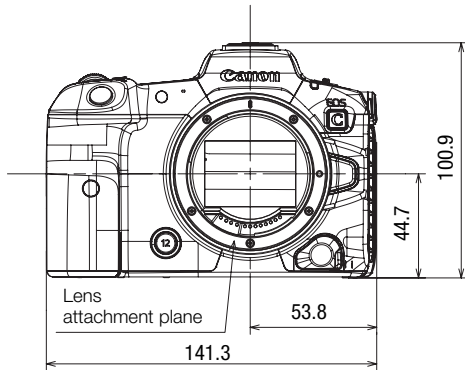
Left



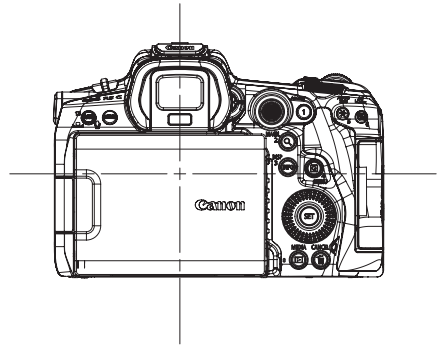
Right



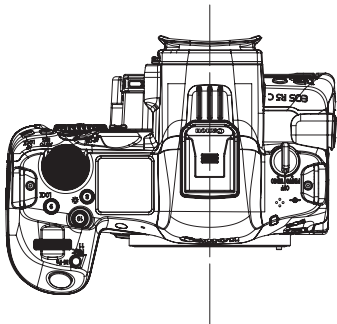
Front



Rear



Top



Bottom

