

XF705

CANON'S FLAGSHIP XF CAMCORDER DELIVERING UHD HDR IN XF-HEVC

The XF705 is a professional UHD camcorder using the XF-HEVC format to record 4:2:2 10-bit UHD HDR files to SD cards, and outputs a UHD signal via a single 12G-SDI interface.



- **UHD/50P 4:2:2 10-bit support with HEVC**
The XF705 delivers UHD 4:2:2 10-bit footage utilising Canon's new and efficient XF-HEVC format.
- **Simple HDR workflow**
The XF705 records HDR internally in HLG or PQ formats to easily fit into a variety of quick HDR workflows.
- **Advanced 12G-SDI and IP streaming**
A 12G-SDI interface sends UHD 50P over a single cable. Additionally, XF705 can stream UHD HDR with HEVC.
- **Accurate and reliable Dual Pixel CMOS AF**
Dual Pixel CMOS AF provides accurate and fast autofocus with touch focus control and face detection.
- **15x L-series lens with Wide-angle**
The powerful 4K L-series lens with three independent lens rings provide flexible control.



XF-HEVC

HDR
High Dynamic Range

12G-SDI

Dual Pixel CMOS AF

1.0
type
CMOS

PRODUCT RANGE



XF705



XF405 / XF400



XF305

XF705

XF405 / XF400

XF305

XF205 / XF200

XC15

XC10

Canon

TECHNICAL SPECIFICATIONS

CAMERA

IMAGE SENSOR

Sensor
1.0-type CMOS

Filter
RGB Primary Colour Filter

Total pixels
13.4 MP

Effective pixels per sensor
8.29 MP

Subject illumination range
Approx. 0.1 lx to 100,000 lx

Minimum illumination (PAL/50.00Hz Mode)
1.5 lux (with Custom Picture Preset Normal 1: BT.709, full auto mode, shutter speed 1/30 sec)

LENS

Zoom ratio
15 x Optical (UHD Mode) 30 x Advanced Zoom Mode (FHD Only)

Focal length
8.3 to 124.5 mm.
35mm equivalent:
Approx. 25.5 - 382.5 mm
Dynamic IS Mode: Approx. 28.3 - 424.6 mm

Minimum focus distance

10 mm at wide end, 60 cm across entire zooming range
3 densities: turret switched, motor-driven.
ND 1/4, ND 1/16, and ND 1/64.

Zoom control

Via Zoom Rocker Switch, Lens Control Ring or Remote Control

Zoom speed
Selectable. Variable or constant speed. Fast, Normal or Slow speed.

Focus control

Dual Pixel CMOS AF, Face Only, Face Priority, One-Shot AF, AF boosted MF, Focus Assist feature, Manual via Lens Ring.

Iris control

Manual via Iris Control Ring, Auto, Push Auto Iris

Aperture

9-blade Iris, Max f/2.8 - 4.5

Filter diameter

Lens elements/groups

14 groups of 18 elements (double aspherical lenses and single Hi-UD lenses)

Image stabilization system

Optical system + Electronic Stabilisation

Powered IS/Dynamic/Standard Mode/IS Off

Yes. 300 X Digital Zoom, 1.5/3.0/6.0 X Digital Teleconverter.

IMAGE PROCESSOR

Type

Dual DIGIC DV6

12-stops (800%) in Canon Log3 or Wide DR mode

XF-HEVC: 4:2:2 10-bit, XF-AVC: 4:2:0 8-bit

Custom Picture Settings

Normal 1 : BT.709 (Normal 1 (STANDARD) / BT.709 / Video)
Normal 1 : BT.2020 (Normal 1 (STANDARD) / BT.2020 / Video)
WideDR : BT.709 (Wide DR / BT.709 / Video)
WideDR : BT.2020 (Wide DR / BT.2020 / Video)
PQ : BT.2020 (PQ / BT.2020 / Video)
HLG : BT.2020 (HLG / BT.2020 / Video)
Canon Log 3 : BT.709 (Canon Log 3 / BT.709 / Neutral)
Canon Log 3 : BT.2020 (Canon Log 3 / BT.2020 / Neutral)
Gamma: PQ/HLG (HLG Equivalent to BT.2100, Vivid equivalent to BT.2390)/CANON LOG3/WIDE DR/NORMAL 1 (STANDARD/NORMAL2 (x4.0)/NORMAL3 (BT.709)/NORMAL 4 (x5.0)
Colour Space: BT.2020/BT.709

Black: Master Pedestal 0 ± 50/Master Black Red 0 ± 50/Master Black Blue 0 ± 50
Black Gamma: Level 0 ± 50/Range -20 - 0 - +50/Point -20 - 0 - +50

Low Key Satur: Activate On / Off/Level 0 ± 50
Knee: Activate On / Off/Automatic On / Off/Slope -35 - 0 - +50/Point +50 - 95 - +109/Saturation 0 - ±10
Sharpness: Level -10 - 0 - +50/Detail Frequency 0 - ±8/Coring Level -30 - 0 - +50/HV Detail Bal. 0 - ±8/Limit 0 - ±50

Noise Reduction: Level Off / Auto / 1 - 12
Skin Detail: Effect Level Off / Low / Middle / High/Hue 0 - ±16/Chroma 0 - 16 - +31/Area 0 - 16 - +31/Y Level 0 - 16 - +31

White Balance: R Gain 0 - +50/B Gain 0 - +50
Colour Matrix Tuning: Gain 0 - ±50/Phase 0 - ±18 (R-G) / (R-B) / (G-R) / (G-B) / (B-R) / (B-G) 0 - ±50
Colour Correction

Select Area Area A / Area B / Area A&B / Off
Area (A/B) Setting Phase [0 - 31]/Area (A/B) Setting Chroma [0 - 16 - 31]/Area (A/B) Setting Area [0 - 16 - 31]/Area (A/B) Setting Y level [0 - 16 - 31]
Area (A/B) Revision Level [0 - ±50]
Area (A/B) Revision Phase [0 - ±18]
Other Functions

Over 100 % Through / Clip / Press

High Dynamic Range Recording
Yes via Custom Picture Menu. PQ and HLG standards supported. Simultaneous HDR and SDR recording supported (HDR to SD card, SDR to External device).

HDR - SDR Gain Control

Yes, ± 7.5dB adjustment to HDR or SDR signal as required.

RECORDING

Video storage media

Type

SD/SDHC/SDXC card, 2 card slots

Class U3 recommended for recording at 160MBPS

XF-HEVC: 160 Mbps: 50 Minutes. 60 Mbps: 140 Mins. 45 Mbps: 185 Mins.

FAT32/exFAT

Recording file system

MXF

Internal Recording format

XF-HEVC: H.265/HEVC
Resolution 3840 x 2160 / 1920 x 1080
Colour sampling YCC 4:2:2 10-bit
Bit rate: 3840 x 2160: 160 Mbps / 110 Mbps (Long GOP)
1920 x 1080: 60 Mbps / 45 Mbps (Long GOP)

XF-AVC: MPEG-4 AVC/H.264
Resolution 1920 x 1080
Colour sampling YCC 4:2:0 8-bit
Bit rate 45 Mbps (Long GOP)

XF-HEVC: Camera mode
3840 x 2160: 59.94P/50.00P/29.97P/25.00P
1920 x 1080: 59.94P/50.00P/29.97P/25.00P
PsF: 1920 x 1080: 59.94i/50.00i
1920 x 1080 (12G-SDI) 29.97PsF/25.00PsF
1920 x 1080 (HDMI) 59.94i/50.00i
23.98P
1920x1080 (23.98P)
PsF --- 1920x1080 (59.94i)

External Recording Output (Varies according to Recording Option selected)

Simultaneous Recording Options

1. SD Card + SD Card: Relay or Simultaneous recording
2. SD Card + External device: 4K (Internal) 2K (External)/HDR (Internal), SDR (External)
50.00P/25.00P

Recording frame rate (PAL Mode)

Yes.
1920 x 1080: 50.00P: x0.5/25.00P: x0.25. Max bit rate 180 Mbps

Slow motion (PAL/50.00Hz Mode)

Interval Record

No

Frame Record

No

Pre Record (cache record)

Yes. 3 Seconds

Scan Reverse

No

Still Image quality

1920 x 1080 JPEG DCF Exif. Ver 2.3

Photo storage media

SD Card. (Photo Function assigned to Assignable Button)

AUDIO

Recording

Linear PCM: 24-bit / 48 kHz / 4 channels [4.5 Mbps].

EBU/AES3 Standard: 48kHz/24-bit/2-ch

Manual or Auto

Control

Reference Tone

1KHz, -12dB / -18dB / -20dB / Off

Microphone level meter

Yes

SYSTEM

PANEL

Type

LCD Capacitive touch panel

Size

4-inch (10.1 cm)

Dots

Approx. 1.23 million dots

Adjustable

Yes

Touch Screen Focus Point Selection

Yes. AF point selection, Face AF subject selection. Manual Focus: Focus Assist Reference Point Selection

Focus Assist

Yes. Focus Guide Function in MF

Peaking

Yes. Selectable Peaking Colour: Red / Blue / Yellow

Zebra

Yes. 70% 100%

Markers

Yes. Horizontal (grey) / Horizontal (white) / Grid (grey) / Grid (white)

CVF

Type

Wide Screen Organic EL display

Size

0.46-inch

Dots

approx. 1.77 million dots

Adjustable

Yes

Viewing Angle

100%

Correction lens

+2.0 - -5 dioptre

INPUTS/OUTPUTS

Audio in

XLR 3-pin jacks (x2), balanced on Handle Unit. 3.5mm

Stereo jack (unbalanced) on camera body

Headphone output

Yes. 3.5mm

Video monitor output

No

HDMI

Yes.

USB

Yes. Min-B and Hi-Speed USB supported

SDI output

Yes. BNC Connector.

[HD]: SMPTE ST 292

[3G]: SMPTE ST 424, 425

[6G]: SMPTE ST 2081

[12G]: SMPTE ST 2082

Audio: SMPTE ST 299

Output Impedance: 75 Ω

Output Signal Level: 0.8 Vp-p

Yes. BNC selectable in/out. Timecode out via HDMI is possible

Yes. BNC. Function selected via menu

Yes. Ethernet connector (RJ45) (supports 1000BASE-T)

No

Yes. 3.4mm Jack

Yes. 2. Remote A: 2.5mm mini-mini jack/Remote B 8-pin jack (for RS-422)

Yes. Third-party HEVC-IP decoder required

MPEG2-TS, HEVC/H.265: 3840 x 2160, 16

Mbps/9Mbps/59.94P/29.97P/50.00P/25.00P

HEVC/H.265: 1920 x 1080, 9Mbps/4Mbps:

59.94P/29.97P/50.00P/25.00P

MPEG2-TS, AVC/H.264: 1920 x 1080, 9Mbps/4Mbps:

59.94i/50.00i

TECHNICAL SPECIFICATIONS

SHOOTING FUNCTIONS

EXPOSURE

Exposure metering

Standard (centre-weighted metering), Spotlight and Backlight. The Standard setting is used in the FULL AUTO mode.

Exposure compensation

Centre ± 8 levels (± 2.0 , ± 1.75 , ± 1.5 , ± 1.25 , ± 1.0 , ± 0.75 , ± 0.5 , ± 0.25 , ± 0)

AE Response function via the menu.

Wave Form Monitor

Yes

Auto Exposure mode

Full Auto Mode

Auto Gain Control setting

Yes

Auto Gain Control limit

-6 dB - Off / 33 dB (1 dB increments)

Gain setting

Gain L/M/H

System Frequency

59.94kHz (NTSC)/50.00kHz (PAL). User selectable.

WHITE BALANCE

Setting

Auto, Manual

Preset

Daylight: 5600 K (Initial value: 5600 K / ± 0 CC) Adjustable range: 4300 K - 8000 K / -5 CC - +5 CC
Tungsten: 3200 K (Initial value: 3200 K / ± 0 CC) Adjustable range: 2700 K - 3700 K / -5 CC - +5 CC
Colour Temperature Setting: Adjustable range: 2000 K - 15000 K / -20 CC - +20 CC Initial value: 5600 K / ± 0 CC Set A / Set B

SHUTTER SPEED

Control Modes

Auto, manual, Clear Scan, Slow, Angle, Off

Shutter speed (PAL)

1/2 - 1/2000 sec (depending on shooting option selected).

Shutter Angle

Yes: 11.25° - 360.00° (depending on shooting option selected).

Slow Shutter (SLS)

50.00P: Auto slow shutter On: 1/25 to 1/500 sec. Auto slow shutter Off
1/50 to 1/500 sec.
25.00P: Auto slow shutter On 1/12.5* to 1/500 sec. (*Display is 1/12.)

Auto slow shutter Off: 1/25 to 1/500 sec.

Yes

Clear Scan

Yes

INFRARED

Infrared shooting mode

Yes

Built-in IR lamp

Yes, in Handle Unit

MISC.

Tally lamp

Yes

Colour Bars

EBU / SMPTE (PAL); SMPTE / ARIB (NTSC)

Accessory shoe

Cold Shoe

Custom Button Assignment

Yes. 14 assignable buttons (Camera Mode), 82 assignable functions via menu.

Wireless LAN standards

Supported Wi-Fi Functions

IEEE802.11b/g/n/a (2.4 GHz/5 GHz)
Browser Remote. (Camera Mode) FTP file transfer (Media Mode)

Encryption

Open Encoding, Open WEP, Shared key/WEP, WPA, WPA2-PSK, or WPA2-PSK AES.

Supported Browser for Remote Operation

Internet Explorer 8 or later, Safari (iOS 9 or 10), Safari (MacOS), Android standard browser Android 4.4 - 6.0

Remote Operation Control Features

Aperture, ND control, Focus, focus adjustment, White balance, Shutter speed, Gain, Exposure compensation, Shooting mode, Zoom, Slot selection. The free memory remaining on the media, time code, remaining battery charge, etc. can be checked. Live View.

Live view image Resolution

Camera setting mode: 680 x 383
Simplified setting mode: 284 x 160

GPS Information (Optional Accessory)

Location (latitude, longitude and altitude) as well as the GPS information while using Coordinated Universal Time (UTC) can be added to MP4 movies and photos. Also, based on this information, the satellite data acquisition status can be checked in camera mode.

TIME CODE

Count up system

Rec Run / Free Run

Start value setting

00:00:00.00 - 23:59:59.29 (PAL 23:59:59.24)

Drop Frame

DF / NDF

User BIT Type

Setting (00 00 00 00 - FF FF FF FF) / Time / Date

ACCESSORIES

Supplied

Lens cap, Lens hood with barrier, Mic holder unit (with screws), Shoulder strap (SS-1200), Wireless Controller, (WL-D6000), Lithium battery (CR2025), Compact Power Adapter (CA-CP200L), AC cable, Battery Pack BP-A30, Battery Charger (CG-A20)

Optional Accessories (Includes items not currently on sale)

Canon Battery Pack BP-A30/BP-A60, Canon Battery Charger CG-A10/CG-A20, Canon Compact Power Adapter CA-CP200L, Canon Wireless Controller WL-D6000, RC-V100 Remote Control Unit, Canon Tele Converter TL-US8, Canon Wide Attachment WA-US8, Canon Shoulder Strap SS-1200, Canon PROTECT filter 58 mm, Canon ND4-L filter 58 mm, Canon ND8-L filter 58 mm, Canon GPS Receiver GP-E2, Canon Remote Controller RC-V100, Tripod Adapter TA-100, Canon Interface Cable IFC-300PCU/S / IFC-400PCU

POWER SUPPLY/BATTERY

Power Consumption

50.00P: 3840x2160 XF-HEVC/160Mbps:- Approx. 20.8W

(Recording), 18.1W (Playback)

50.00P: 1920x1080 XF-AVC/45Mbps:- Approx. 18.8W

(Recording), 15.8W (Playback)

Battery Pack

14.4 V DC, BP-A30 (Supplied), BP-A60 (Optional)

Continuous Recording Time (approx.)

50.00P: 3840x2160 XF-HEVC/160Mbps:- Approx. 125 Mins

(Maximum), 65 Minutes (Typical)

50.00P: 1920x1080 XF-AVC/45Mbps:- Approx. 135 Mins

(Maximum), 80 Mins (Typical)

Mains Power

24V DC (Compact Power Adapter CA-CP200L, supplied)

MISCELLANEOUS

Dimensions

Approx. 191 x 258 x 433 mm (Approx. 7.5 x 10.2 x 17.0 in)

[Including lens hood, eyecup and mic holder unit]

Weight (camera only)

Approx. 2,600 g (including grip belt)

Operating Temperature range

Approx. 0 to 40 °C, 85% (relative humidity),

Approx. -5 to 45 °C, 60% (relative humidity)

Footnotes:

All specifications are subject to change without notice