

# 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**



**XF305**

## **XF705**

XF405 / XF400

XF305

XF205 / XF200

XC15

XC10

**Canon**

# TECHNICAL SPECIFICATIONS

# XF705

## 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

Preset:  
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]/NORMAL 2 (x4.0)/NORMAL 3 (BT.709)/NORMAL 4 (x5.0)  
Colour Space: BT.2020/BT.709

### Custom Picture setting adjustments

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

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 format

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)

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

## Simultaneous Recording Options

### Recording frame rate (PAL Mode)

### Slow motion (PAL/50.00Hz Mode)

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

### Interval Record

### Frame Record

### Pre Record (cache record)

### Scan Reverse

### Still Image quality

### Photo storage media

## AUDIO

### Recording

### Control

### Reference Tone

### Microphone level meter

## SYSTEM

### PANEL

### Type

### Size

### Dots

### Adjustable

### Touch Screen Focus Point Selection

### Focus Assist

### Peaking

### Zebra

### Markers

### CVF

### Type

### Size

### Dots

### Adjustable

### Viewing Angle

### Correction lens

## INPUTS/OUTPUTS

### Audio in

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

Stereo jack (unbalanced) on camera body

### Headphone output

### Video monitor output

### HDMI

### USB

### SDI output

Yes. Min-B and Hi-Speed USB supported

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 1000 BASE-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

MPEG-2-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

MPEG-2-TS, AVC/H.264: 1920 x 1080, 9Mbps/4Mbps:

59.94i/50.00i

# TECHNICAL SPECIFICATIONS

# XF705

## 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  $\pm 8$  levels ( $\pm 2.0$ ,  $\pm 1.75$ ,  $\pm 1.5$ ,  $\pm 1.25$ ,  $\pm 1.0$ ,  $\pm 0.75$ ,  $\pm 0.5$ ,  $\pm 0.25$ ,  $\pm 0$ )  
AE Response function via the menu.

#### Wave Form Monitor

#### Auto Exposure mode

#### Auto Gain Control setting

#### Auto Gain Control limit

#### Gain setting

Yes  
Full Auto Mode

Yes

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

Gain L/M/H

#### System Frequency

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

## WHITE BALANCE

### Setting

### Preset

Auto, Manual

Daylight: 5600 K (Initial value: 5600 K /  $\pm 0$  CC) Adjustable range: 4300 K - 8000 K / -5 CC - +5 CC

Tungsten: 3200 K (Initial value: 3200 K /  $\pm 0$  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 /  $\pm 0$  CC Set A / Set B

## SHUTTER SPEED

### Control Modes

### Shutter speed (PAL)

### Shutter Angle

### Slow Shutter (SLS)

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

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

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

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.

### Clear Scan

Yes

## INFRARED

### Infrared shooting mode

### Built-in IR lamp

Yes

Yes, in Handle Unit

## MISC.

### Tally lamp

### Colour Bars

### Accessory shoe

### Custom Button Assignment

Yes

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

Cold Shoe

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

### Wireless LAN standards

### Supported Wi-Fi Functions

### Encryption

IEEE802.11b/g/n/a (2.4 GHz/5 GHz)

Browser Remote. (Camera Mode) FTP file transfer (Media Mode)

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

### Supported Browser for Remote Operation

### Remote Operation Control Features

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

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

### GPS Information (Optional Accessory)

## TIME CODE

### Count up system

### Start value setting

### Drop Frame

### User BIT Type

Camera setting mode: 680 x 383

Simplified setting mode: 284 x 160

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.

Rec Run / Free Run

00:00:00:00 - 23:59:59:29 (PAL 23:59:59:24)

DF / NDF

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

### Continuous Recording Time (approx.)

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

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

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