



Clifton Cameras Product Specification

Panasonic HC-X20E Camcorder

Specifications

SENSOR SECTION

Image Sensor:	1.0-type MOS Sensor (For Europe) 1.0-inch MOS Sensor (For North America / Asia)
Effective Pixels:	15.03 megapixels
Latitude:	13 stops (V-log)

LENS SECTION

F Value:	F2.8 — 4.5
Optical Zoom:	20x
Focal Length:	8.8 — 176 mm
35 mm Film Camera Equivalent:	24.5 — 490 mm
Filter Diameter:	67 mm 67 mm
Lens Brand:	Panasonic Lens

CAMERA SECTION

Minimum Illumination:	0.6 lx (F2.8, Super Gain +, when shutter speed is 1/30 sec.)
Focus:	Auto / Manual

Zoom

i.Zoom OFF:	20x
i.Zoom ON:	Max. 32x (UHD 24x)
Digital Zoom:	2x / 5x / 10x
ND Filter:	1/4, 1/16, 1/64, OFF
IR Filter:	Incorporates the ON/OFF control function
White Balance:	Auto / ATW LOCK / 3200K / 5600K / VAR (2000K—15000K) / Ach Fixed / Bch Fixed

Shutter Speed

59.94 Hz mode



59.94i/59.94p:	1/60, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/8000 sec
29.97p:	1/30, 1/50, 1/60, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/8000 sec
23.98p:	1/24, 1/48, 1/50, 1/60, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/8000 sec
50.00 Hz mode	
50i/50p:	1/50, 1/60, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/8000 sec
25p:	1/25, 1/50, 1/60, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/8000 sec

Slow Shutter Speed

59.94 Hz mode	
59.94i/59.94p:	1/8, 1/15, 1/30 sec
29.97p:	1/8, 1/15 sec
23.98p:	1/6, 1/12 sec
50.00 Hz mode	
50i/50p:	1/6, 1/12, 1/25 sec
25p:	1/6, 1/12 sec
Synchro Scan	
59.94 Hz mode	
59.94i/59.94p:	1/60.0 — 1/249.6 sec
29.97p:	1/30.0 — 1/249.8 sec
23.98p:	1/24.0 — 1/249.7 sec
50.00 Hz mode	
50i/50p:	1/50.0 — 1/250.0 sec
25p:	1/25.0 — 1/250.0 sec

VFR Recording Frame Rate

59.94 Hz mode:	2, 12, 15, 20, 22, 24, 26, 28, 30, 32, 34, 36, 45, 48, 60 fps
50.00 Hz mode:	2, 12, 21, 23, 25, 27, 30, 37, 50 fps

Super Slow Recording Frame Rate

59.94 Hz mode:	FHD 120 fps (1/2 speed at 60p, 1/4 speed at 30p, 1/5 speed at 24p)
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50.00 Hz mode:	FHD 100 fps (1/2 speed at 50p, 1/4 speed at 25p)
Iris:	Auto / Manual
Image Stabilizer:	Ball O.I.S., 5-Axis HYBRID O.I.S.+ (UHD/FHD)
RECORDING SECTION	
Recording Media:	SDHC/SDXC Memory Card, UHS-I compatible
Recording Format:	MOV, MP4, AVCHD
Video Compression Method:	MOV/MP4: H.264/MPEG-4 AVC High Profile, H.265/MPEG-H HEVC Main10 Profile AVCHD: H.264/MPEG-4 AVC High Profile
Audio Compression Method:	MOV: LPCM, 48kHz/24bit, 2ch MP4: AAC, 48kHz/16bit, 2ch AVCHD: Dolby Audio, 48kHz/16bit, 2ch
System Frequency:	59.94Hz / 50.00Hz
Recording / Playback Mode	
MOV (HEVC):	[4:2:0 10bit] UHD 3840x2160 59.94p/50.00p HEVC LongGOP 200M: Average 200Mbps (VBR) UHD 3840x2160 59.94p/50.00p HEVC LongGOP 100M: Average 100Mbps (VBR) UHD 3840x2160 29.97p/25.00p/23.98p HEVC LongGOP 150M: Average 150Mbps (VBR)
MOV:	[4:2:0 8bit] UHD 3840x2160 59.94p/50.00p 420LongGOP 150M: Average 150Mbps (VBR) UHD 3840x2160 29.97p/25.00p/23.98p 420 LongGOP 100M: Average 100Mbps (VBR) [4:2:2 10bit] UHD 3840x2160 29.97p/25.00p/23.98p 420 LongGOP 150M: Average 150Mbps (VBR) FHD 1920x1080 59.94p/50.00p ALL-I 200M: Average 200Mbps (VBR) FHD 1920x1080 59.94p/50.00p ALL-I 100M: Average 100Mbps (VBR) FHD 1920x1080 29.97p/25.00p/23.98p ALL-I 100M: Average 100Mbps (VBR) FHD 1920x1080 59.94p/50.00p 422 LongGOP100M: Average 100Mbps (VBR) FHD 1920x1080 59.94i/50.00i/29.97p/25.00p/23.98p 422 LongGOP 50M: Average 50Mbps (VBR)



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MP4 (HEVC):	[4:2:0 10bit] UHD 3840x2160 59.94p/50.00p HEVC LongGOP 100M: Average 100Mbps (VBR) UHD 3840x2160 29.97p/25.00p/23.98p HEVC LongGOP 72M: Average 72Mbps (VBR)
MP4:	[4:2:0 8bit] UHD 3840x2160 29.97p/25.00p/23.98p 420 LongGOP 72M: Average 72Mbps (VBR) FHD 1920x1080 59.94p/50.00p/23.98p 420 LongGOP 50M: Average 50Mbps (VBR)"
AVCHD:	[4:2:0 8bit] PS 1920x1080 59.94p/50.00p: Average 25Mbps (VBR) PH 1920x1080 59.94i/50.00i/23.98p: Average 21Mbps (VBR) HA 1920x1080 59.94i/50.00i: Average 17Mbps (VBR) PM 1280x720 59.94p/50.00p: Average 8Mbps (VBR)"
LIVE STREAMING	
Video Compression Format:	H.264/MPEG-4 AVC Main Profile, High Profile
Video Resolution:	1920 x 1080 (FHD), 1280 x 720 (HD), 640 x 360, 320 x 180
Streaming Method:	Unicast, Multicast Unicast, Multicast
Frame Rate:	System frequency = 59.94 Hz: 60 fps, 30 fps, 24 fps System frequency = 50.00 Hz: 50 fps, 25 fps
Bit Rate:	24 Mbps, 20 Mbps, 16 Mbps, 14 Mbps, 8 Mbps, 6 Mbps, 4 Mbps, 3 Mbps, 2 Mbps, 1.5 Mbps, 1 Mbps, 0.7 Mbps, 0.5 Mbps
Audio Compression Format:	AAC-LC, 48 kHz/16 bit, 2ch AAC-LC, 48 kHz/16 bit, 2ch
Network Protocol:	RTSP/RTP/RTMP/RTMPS
STILL IMAGE SECTION	
Recording Format:	JPEG (DCF/Exif2.2)
Recording Image Size:	Video Playback Mode: 3840 x 2160 (16:9), 1920 x 1080 (16:9), 1280 x 720 (16:9)
GENERAL SECTION	
Power Supply:	7.28V (Battery) / 12V (AC Adaptor)
Power Consumption:	18.5W (LCD Monitor)
Dimensions (W x H x D):	Approx. 171 x 195 x 343 mm (6.74 x 7.68 x 13.51 inch)
Weight:	Body: approx. 2000g (4.41 lb) (body and handle only, excluding lens hood, battery, and accessories)



Shooting: approx. 2430g (5.36 lb) (including lens hood, standard battery, two SD cards, microphone holder, XLR caps and eyecup)

LCD Monitor: 8.88 cm (3.5-inch) Wide LCD monitor (About 2,760,000 dots) (For Europe)

3.5-inch Wide LCD monitor (About 2,760,000 dots) (For North America / Asia)

Viewfinder: 1.0 cm (0.39-inch) Wide OLED EVF (About 1,770,000 dots) (For Europe)

0.39-inch Wide OLED EVF (About 1,770,000 dots) (For North America / Asia)

Manual Ring: Focus / Zoom / Iris

Accessory Shoe: Yes

INTERFACE SECTION

Video

SDI OUT —

HDMI Type A x 1 (VIERA Link not supported), supports time code output and remote recording control

Output format: 4:2:2 10bit

2160/59.94p/50.00p/29.97p/25.00p/23.98p,

1080/59.94p/50.00p/29.97p/25.00p/23.98p/59.94i/50.00i,

720/59.94p/50.00p, 480/59.94p, 576/50.00p

Audio Input

Built-in Microphone: Stereo microphone

Audio Input: XLR (3 pins) x 2

Input high impedance, LINE/MIC/MIC+48 V (switchable SW)

LINE : +4dBu/0dBu (switchable menu)

MIC: -40dBu/-50dBu/-60dBu (switchable menu)

Audio Output

SDI: —

HDMI: 2 ch (LPCM)

Headphone: 3.5 mm diameter stereo mini jack x 1

Speaker: 20 mm diameter, round x 1

Other Input/Output



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TC IN/OUT:	—
Camera Remote:	2.5mm super mini jack x 1
USB:	Type-C x 1, USB3.1 Gen 1, HOST/DEVICE (switchable menu) HOST: Bus power supported (5V, 0.9A), USB ethernet adaptor supported DEVICE: mass storage function (read only)
LAN:	—
DC IN:	DC 12V (11.4V — 12.6V) EIAJ Type4
Wi-Fi	
Standard:	IEEE 802.11b/g/n
Frequency:	2412 MHz to 2462 MHz [1 to 11ch]
STANDARD ACCESSORY	
AC Adaptor:	Yes
AC Cable:	Yes
Rechargeable Battery Pack:	Yes (5,900mAh)
Handle Unit:	—
Battery Charger:	Yes
IR Remote:	—
HDMI Cable:	—
AV Cable:	—
USB HOST Conversion Cable:	—
USB Ethernet Adaptor:	—
Microphone Holder:	Yes
Microphone Holder Screws:	Yes
Input Terminal Cap:	Yes
Eye Cup:	Yes
Lens Hood:	Yes
Editing Software:	—