Panasonic

4K Professional Camcorder HC-X20

SENSOR SECTION

Image Sensor	1.0-type MOS Sensor
Effective Pixels	15.03 megapixels
Latitude	—

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
Lens Brand	Panasonic Lens

CAMERA SECTION

Minimum Illumination	0.6 lx (F2.8, Super Gain+, Shutter Speed 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	Clear, 1/4, 1/16, 1/64	
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)
	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(HEVC)/MP4(HEVC): H.265/MPEG-4 HEVC Main10 Profile MOV, MP4: H.264/MPEG-4 AVC High 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

2-slot Function	Relay recording, simultaneous recording, background recording	
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 422 LongGOP 150M: Average 150Mbps (VBR) FHD 1920x1080 59.94p/50.00p ALL-I 200M: Average 200Mbps (VBR) FHD 1920x1080 59.94i/50.00i 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)
	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)

DUAL CODEC SECTION

Recording Format	—	
Video Compression Method	—	
Audio Compression Method	—	
Recording format	**FHD 50Mbps**	—
	FHD 8Mbps	—

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
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
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) (including lens hood, excluding eye cup and microphone holder)
Weight	Approx. 2000g (4.41 lb) (main unit only (including grip belt), excluding lens hood, battery, and supplied accessories) Approx. 2430g (5.36 lb) (including lens hood, supplied battery, eye cup, two SD cards, microphone holder and INPUT terminal caps)
LCD Monitor	8.8 cm (3.5-inch) Wide LCD monitor (About 2,760,000 dots)
Viewfinder	1.0 cm (0.39-inch) Wide OLED EVF (About 2,360,000 dots), video display area: About 1,770,000 dots
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 OUT**	—
	HDMI	2 ch (LPCM)
	Headphone	3.5 mm diameter stereo mini jack x 1
	Speaker	20 mm diameter, round x 1
Other Input/Output	**TC IN/OUT**	—
	Camera Remote	2.5mm diameter 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)
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	—
Note	* Only images cut from video in video playback mode are supported.