

# JVC

4K Memory Card Camera Recorder

# GY-HC500

## CONNECTED CAM™



# Ready for Various Recording Needs

H.265/HEVC Streaming

Apple ProRes 422 Recording

Multi-Purpose Slot for Expandability



**H.265/HEVC**

KA-EN200G: H.265/HEVC Streaming Adapter

**SSD**  
Solid State Drive

KA-MC100G: SSD Media Adapter



With the optional KA-EN200G H.265/HEVC Streaming Adapter attached, high-quality and efficient IP video transmission is possible.

- H.265 compression produces similar or better image quality than H.264 at 50% of bitrate.
- Supports contribution quality of 4:2:2 10-bit HEVC encoding.
- Encodes HDR video with HLG or J-LOG Gamma LUTs.
- Supports UDP, Zixi and SRT streaming protocols.

You can use a large-capacity, readily-available SSD (SATA M.2 SSD Type2280)\* as recording media. Just insert it in the optional KA-MC100G and attach to the camera. SSD media delivers excellent sequential read speed to tackle professional workload and its high-capacity extends recording time of 4K UHD video. High-speed transfer of huge amounts of recorded footage is also available.

\* Approved SSD media should be used. Refer to the JVC website for detailed information.

**ProRes**

4K UHD/HD 60p/50p ProRes 422 10-bit Recording

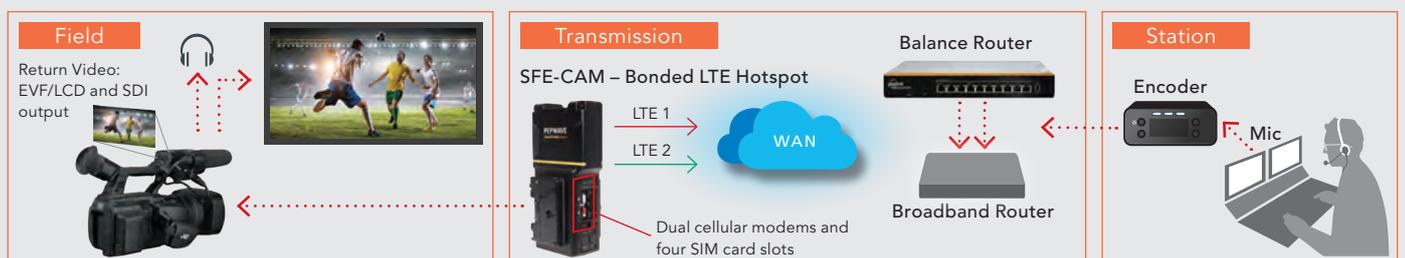
By using the SSD media, ProRes 422 recording becomes possible for attention-grabbing 4K/HD 60p/50p image creation. ProRes 422 offers virtually lossless intra-frame compression, which speeds up post-production. Footage is recorded in native file formats that are understood by most major editing applications without transcoding. This is helpful for efficient workflow of editing and post process. The 4:2:2 format also provides richer color information and 10-bit recording delivers rich gradations—a definite advantage for grading work after recording.

## Backup Recording to SSD

Backup recording to record ordinary Rec Start/Stop-controlled footage in the SD Card of slot A while recording all data on the SSD even when slot A is paused.

### ■ IFB and Return Video over IP (RTSP/RTP, Icecast (Audio))

The GY-HC500 features built-in IFB and Return Video decoders capable of receiving the H.264 stream over the Internet via RTSP "Pull" protocol (Return Video) and Icecast streams for the IFB. The camera can receive either IFB or Return Video, not both simultaneously. Return Video is displayed in the viewfinder and LCD and output via SDI when the pre-assigned button "Return Video" is pressed once. The second press would return the LCD/EVF/SDI to the live video output. The HDMI output does not switch to Return Video and outputs live video all the time.



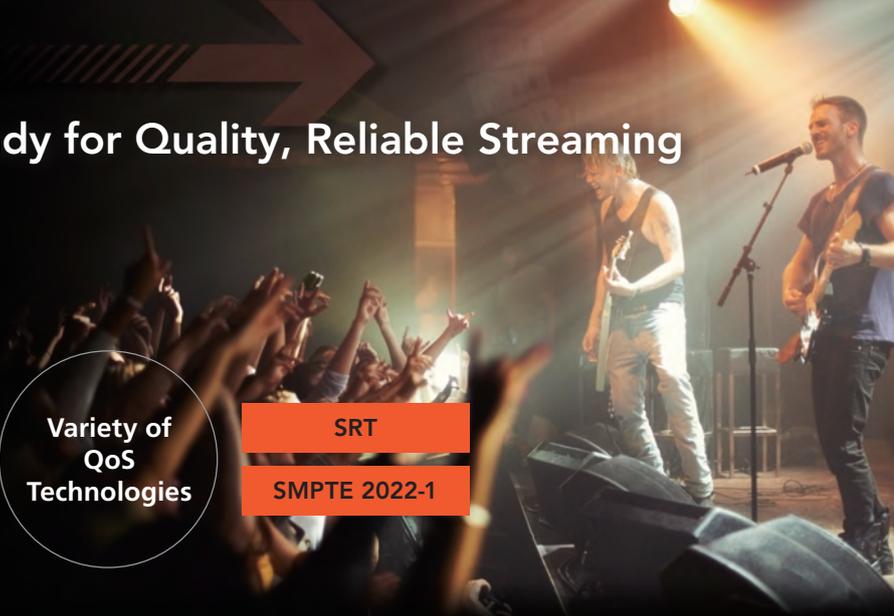
SFE-CAM is a bonded cellular hotspot that connects interactively to multiple GY-HC500 camcorders and features Peplink's patented SpeedFusion™ technology. SFE-CAM bonds multiple cellular and wireless LAN connections enabling the user to send digital video at greater speeds than you could with a single modem. Provided with dual cellular modems with redundant SIM slots and dual band Wireless LAN, you can use up to four different providers for bandwidth bonding.



# Ready for Quality, Reliable Streaming

Variety of QoS Technologies

- SRT
- SMPTE 2022-1



## SRT

SECURE  
RELIABLE  
TRANSPORT

### Various Protocols for QoS including SRT and SMPTE 2022-1

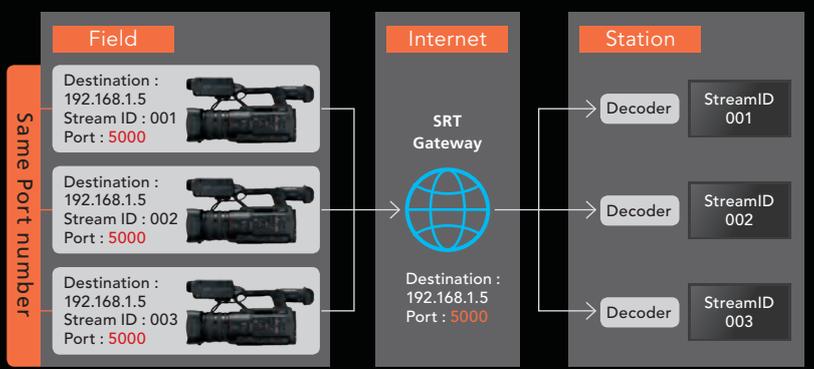
For quality, reliable streaming, the CONNECTED CAM camcorders feature various QoS (Quality of Service) capabilities including SRT and SMPTE 2022-1. Forward error correction (FEC), automatic repeat request (ARQ), and adaptive bitrate control are supported to ensure error-free video delivery in packet loss environments such as when streaming over cellular networks.

### SRT – Powerful Video Transport Protocol

SRT (Secure Reliable Transport) is a video transport protocol that optimizes video streaming performance even under unstable networks. With ARQ and FEC support, SRT brings together encryption, packet loss recovery, and jitter prevention to preserve the integrity and quality of video streaming.

### SRT Stream ID for Added Security

Stream ID protects a video channel from unauthorized access. The SRT decoder only accepts streams with embedded, encoder-specified Stream IDs and all other streams are ignored. To receive multiple streams differentiated by unique Stream IDs, only a single port is necessary so that the additional security is assured when delivering video over public networks.



### ■ IP Remote Control with Viewing

Various camera operations can be controlled via wireless/wired LAN from a smartphone, tablet and PC.

### ■ Auto/Progressive FTP

During shooting, recorded video clips are automatically uploaded to the server.

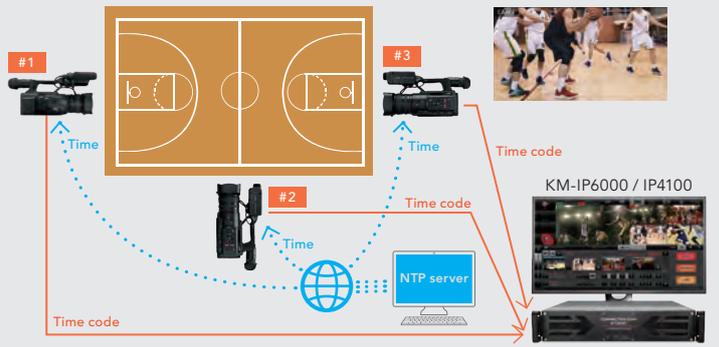


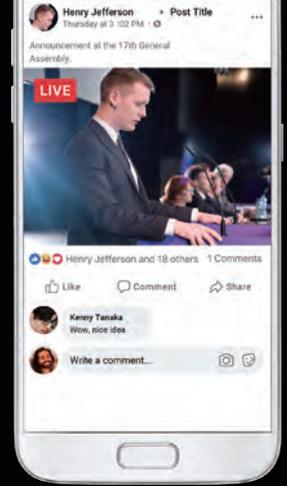
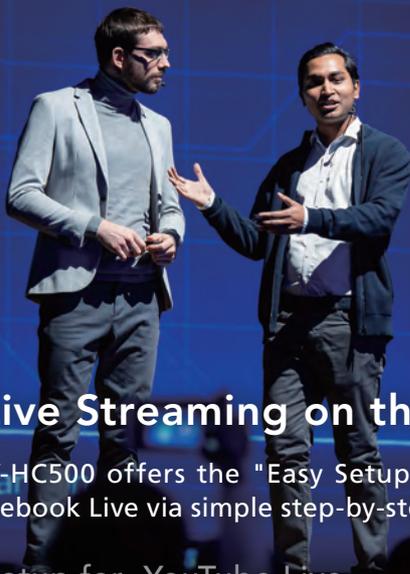
### ■ VITC (Vertical Interval Time Code)

Can use the industry-standard TC, compatible with Haivision, VITEC, and other decoders.

### ■ NTP (Network Time Protocol)

The combination of GY-HC500 and KM-IP6000/IP4100 provides an affordable multi-camera live production solution with Network Time Protocol. Suitable for compact live production and streaming studios to deliver live events such as concerts, sports, ceremonies, and conferences.





## Go Live Streaming on the Social Network!

The GY-HC500 offers the "Easy Setup" function for YouTube Live and Facebook Live via simple step-by-step menu operations.

### Easy Setup for YouTube Live

You can select scheduled or immediate streaming (Schedule On/Off setting) for YouTube Live.

### Easy Setup for Facebook Live

Just follow the camcorder's menu settings and you can easily get ready to stream over the Facebook Live.

**RTMPS Support** (Real Time Message Protocol over Secure Sockets Layer)

Facebook Live requires all encoders to use the RTMPS protocol. Count on the GY-HC500 that supports more resolution and bitrate formats of the RTMPS protocol.



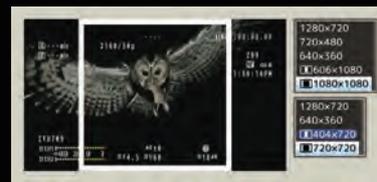
JVC is a member of "Facebook Live Solution Partners".  
<https://www.facebook.com/formedia/solutions/facebook-live>

### Vertical and Square Streaming for the Social Network

Vertical or square angle of view can be selected for streaming to the applicable social network services.



White guidelines will appear on the LCD and viewfinder.



### Streaming Format Availability

Conditions: [1] Record Format:H.264, [2] without overlay and timestamp, [3] without KA-EN200G

Resolution	1920x1080												606x1080, 1080x1080		1280x720													
	60p, 50p						60i, 50i						60p, 50p, 30p, 25p		60p, 50p			30p, 25p										
Frame Rate	60p, 50p		60i, 50i		60i, 50i		30p, 25p		30p, 25p		60p, 50p		60p, 50p		30p, 25p		30p, 25p											
Type	MPEG2-TS/UDP	MPEG2-TS/TCP	MPEG2-TS/RTP	RTSP	SRT (FEC Off)	SRT (FEC On)	RTMP	RTMPS	Facebook Live (RTMPS)	YouTube Live (RTMP)	MPEG2-TS/UDP	MPEG2-TS/TCP	MPEG2-TS/RTP	RTSP	SRT	RTMP	RTMPS	Facebook Live (RTMPS)	YouTube Live (RTMP)	MPEG2-TS/UDP	MPEG2-TS/TCP	MPEG2-TS/RTP	RTSP	SRT	RTMP	RTMPS	Facebook Live (RTMPS)	YouTube Live (RTMP)
Bitrate	[Grid of dots indicating format availability for various bitrates]																											
24Mbps	[Grid of dots]																											
20Mbps	[Grid of dots]																											
16Mbps	[Grid of dots]																											
12Mbps	[Grid of dots]																											
8Mbps	[Grid of dots]																											
5Mbps	[Grid of dots]																											
3Mbps	[Grid of dots]																											
1.5Mbps	[Grid of dots]																											
0.8Mbps	[Grid of dots]																											
0.3Mbps	[Grid of dots]																											

Resolution	404x720, 720x720		720x480 or 720x576				640x360																					
	60p, 50p		60i, 50i				60p, 50p				30p, 25p																	
Frame Rate	60p, 50p		60i, 50i				60p, 50p				30p, 25p																	
Type	RTMP	RTMPS	Facebook Live (RTMPS)	YouTube Live (RTMP)	MPEG2-TS/UDP	MPEG2-TS/TCP	MPEG2-TS/RTP	RTSP	SRT	RTMP	MPEG2-TS/UDP	MPEG2-TS/TCP	MPEG2-TS/RTP	RTSP	SRT	RTMP	RTMPS	Facebook Live (RTMPS)	YouTube Live (RTMP)	MPEG2-TS/UDP	MPEG2-TS/TCP	MPEG2-TS/RTP	RTSP	SRT	RTMP	RTMPS	Facebook Live (RTMPS)	YouTube Live (RTMP)
Bitrate	[Grid of dots indicating format availability for various bitrates]																											
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1.5Mbps	[Grid of dots]																											
0.8Mbps	[Grid of dots]																											
0.3Mbps	[Grid of dots]																											

### KA-EN200G: H.265/HEVC Streaming Format

Resolution	1920x1080						1280x720			
	60p, 50p		30p, 25p		60p, 50p		60p, 50p		30p, 25p	
Frame Rate	60p, 50p		30p, 25p		60p, 50p		60p, 50p		30p, 25p	
Type	MPEG2-TS/UDP	SRT	MPEG2-TS/UDP	SRT	MPEG2-TS/UDP	SRT	MPEG2-TS/UDP	SRT	MPEG2-TS/UDP	SRT
Color depth, Sampling	[Grid of dots for 4:2:2, 10-bit and 4:2:0, 8-bit]									
Bitrate	[Grid of dots indicating format availability for various bitrates]									
24Mbps	[Grid of dots]									
20Mbps	[Grid of dots]									
16Mbps	[Grid of dots]									
12Mbps	[Grid of dots]									
8Mbps	[Grid of dots]									
5Mbps	[Grid of dots]									
3Mbps	[Grid of dots]									
1.5Mbps	[Grid of dots]									
0.8Mbps	[Grid of dots]									
0.3Mbps	[Grid of dots]									

## 1-Inch CMOS

### 1" CMOS 4K Image Sensor

The GY-HC500 features a 1-inch CMOS 4K image sensor for uncompromised image quality. This large sensor delivers a superior dynamic range, high S/N ratio and high sensitivity (F11 at 2000lx). Details are crisp and accurate throughout the entire image plane.

## 20x Zoom Lens

### 20x Optical/40x Dynamic Zoom Lens with Manual Functions

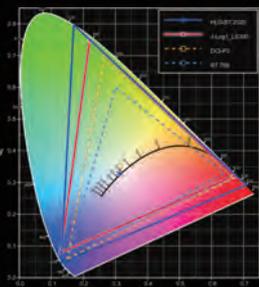
A wide angle 20x optical zoom lens for flexible magnification. When shooting in HD mode, Dynamic Zoom combines optical zoom and pixel mapping from a 4K image sensor to create seamless and lossless 40x zoom. An optical image stabilizer and chromatic aberration correction are also available.



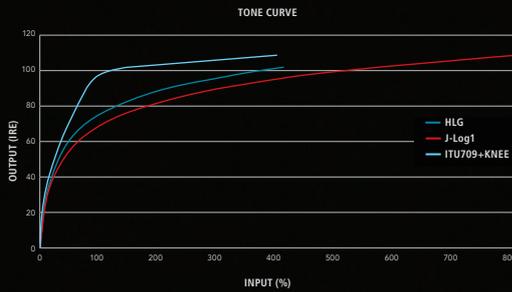
## HDR High Dynamic Range

### HDR via HLG/J-Log 1

#### HLG & J-Log 1 Color Gamut



#### J-Log 1 and Rec709+Knee Gamma



The GY-HC500 is equipped with an HDR compatible HLG (Hybrid Log Gamma) mode and JVC's proprietary J-Log 1 Gamma mode. These enable high dynamic range capture of a broad color spectrum with 10-bit recording for better color grading and to avoid banding. Footage recorded in HLG mode will deliver a full HDR image when viewed on HLG-compatible monitors. The J-Log 1 mode delivers wide latitude and a high dynamic range of 800%. In the field, it's possible to record while checking the image on the camera's LCD screen or viewfinder to get a grasp of the final output.

#### [ HLG Workflow ]

GY-HC500 supports HLG recording which enables simple HDR workflow without color grading. Avoiding clipped highlights or shadows, images are more realistic and vibrant. BT.2020 which offers wider color gamut is also supported.

## High-Speed Recording for 1080p Slow Motion Playback

High-speed recording (1920x1080) at up to 120fps (59.94Hz)/100fps (50Hz) is available for smooth slow motion playback (up to 1/5 slow at 24p mode). It helps create artistic effects and lets you watch replays to examine sporting skills.

## Extremely Practical Auto Focus and Assist Functions

The Auto Focus and Focus Assist functions provide the highly accurate, stable focusing that is essential for 4K shooting. Moreover, its broad customizability enables it to perform in a variety of shooting situations.

Face Detection: ON



Face Only AF: OFF



When the face turns away and face detection fails, focus comes into the subject in the background.

Face Only AF: ON



When face detection fails, focusing automatically switches to MF while maintaining the focus on the position of the face.

## Robust Body and Excellent in Weather Resistance

Designed to work in harsh environments, its weather-resistant robust body enables image gathering in the field with confidence.



### Switchable IR Shooting

IR filter can be switched disabled (Infrared ON) to increase infrared sensitivity for shooting in extremely low illuminance. The IR shooting function can be assigned to the "USER" button.

## Auto Color Matrix Adjustment under LED Light

Auto Color Matrix Adjustment reproduces natural images when shooting under LED lighting in Full Auto mode.



## Remote Zoom Ease

"Remote Zoom Ease" provides zoom operation sensitivity on the wired remote, similar to the zoom lever on the camcorder handle.

# CONNECTED CAM STUDIO

## LIVE STREAMING PRODUCTION SUITE

KM-IP6000 (6-input) / KM-IP4100 (4-input)

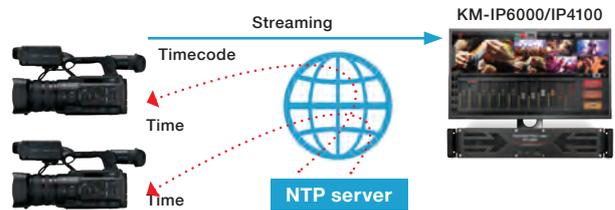
KM-IP6000/IP4100 Series is the centerpiece of a complete IP workflow for news, sports, worship and education. This self-contained control room features a production switcher that offers instant-replays and slow motion with an intuitive touch-screen operation.



- HD-SDI input, IP stream input, NDI input (x6 for KM-IP6000, x4 for KM-IP4100)
- Integrated JVC camcorder remote control
- Up to 1920x1080 30p/25p or 1280x720 60p/50p streaming @ 10Mbps max
- RTMP & MPEG-TS simultaneous output
- Internal character generator with templates
- 4 layers of DSK – CG/images/animations with transparency

- Replay and Slow Motion
- Return over IP
- SRT Compatible
- Multi-Camera Synchronization

Equipped with multi-camera synchronization, Network Time Protocol synchronized encoders.



- Zero Config Capability

Provides automatic detection of JVC camcorders within the same LAN group, and simple setting up of connections with the KM-IP6000/KM-IP4100.

## IP REMOTE CONTROL PANEL

RM-LP250S (Joystick version) / RM-LP250M (Encoder version)



RM-LP250S/LP250M is an IP based remote control panel for CONNECTED CAM models (GY-HC500 Series and GY-HC900 Series). It enables versatile control of iris functions and other camera settings with ethernet connection (RJ-45).

RM-LP250S: Can control a single camera  
 RM-LP250M: Can control up to 3 cameras

## Basic System Configurations



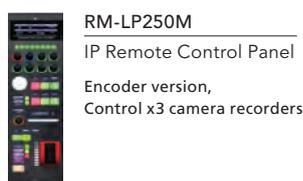
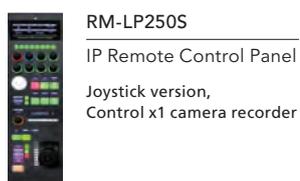
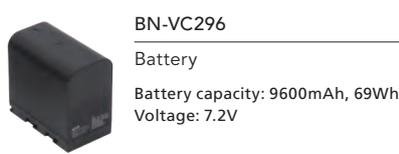
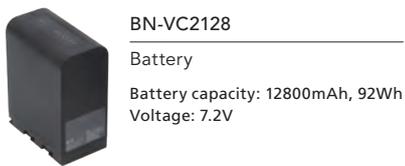
### Controlling 3 cameras with a controller and a mixer.

Item	Model	Description	Qty
1	RM-LP250M (Encoder)	IP Remote Control Panel	1
2	GY-HC500	4K Memory Card Camera Recorder	3
3	KM-IP4100	LIVE STREAMING PRODUCTION SUITE	1
4	Monitor	(for use with KM-IP4100)	1

Item	Model	Description	Qty
5	Monitor		1
6	Microphone		1
7	Control	LAN Cable	6
8		HUB (PoE+ for RM-LP250M)	1
9	Internet Connection	Broadband Router (to connect the Internet)	



## Accessories



Specifications

GENERAL SPECIFICATIONS	Power	DC12V (AC adapter), DC7.2V (battery)	
	Power consumption	Approx. 24W (Default setting)	
	Dimensions (W x H x D)	188mm x 227mm x 437mm (with lens hood)	
	Weight	3.6kg (with lens hood and battery, without wireless LAN antenna unit)	
	Temperature	Operating: 0°C to 40°C, Storage: -20°C to 50°C	
CAMERA	Humidity	Operating: 30% to 80%, Storage: Under 85%	
	Image sensor	1" (effective) CMOS, effective number of pixels: approx 9.35 million	
	Synchronizing	Internal synchronization	
	Stabilizer	Optical image stabilizer	
	Sensitivity	F11 at 2000lx 89.9% reflectance	
	Lens	F2.8 (wide) to F4.5 (tele), f=9.43mm to 188.6mm (f=28mm to 560mm (35mm equivalent))	
	Filter diameter	82mm	
	Shutter speed	1/6 (48Hz), 1/7.5 (60Hz) to 1/10000	
	Gain	-6, -3, 0, 3, 6, 9, 12, 15, 18, 21, 24 Lolux (30, 36) dB, AGC	
	ND filter	OFF, 1/4, 1/16, 1/64	
	Viewfinder	0.4" LCOS approx 3.68M pixels Quad VGA (1280 x 960), 1280 x 720 at 16:9	
	LCD monitor	3.97" LCD approx. 1.15M pixels WVGA (800 x 480), 800 x 450 at 16:9	
	VIDEO/AUDIO RECORDING	Recording media	SDHC/SDXC memory card x 2
		SSD (Solid State Drive) Type M.2 SATA	With KA-MC100G (optional)
Video codec		ProRes 422, MPEG-4 AVC/H.264	
File format		QuickTime, MP4	
LIVE VIDEO STREAMING	Audio recording	LPCM 2ch, 48kHz/24-bit/16-bit, $\mu$ -Law 2ch (Web), AAC 2ch (Exchange/MP4), Detail information is shown in Recording Formats chart below.	
	Protocol	MPEG2-TS/UDP, MPEG2-TS/TCP, MPEG2-TS/RTSP, SRT, RTMP, RTMPS, Facebook Live (RTMPS), YouTube Live (RTMP)	
	Resolution and bit rate	>> Refer to "Streaming Format Availability" chart on page 3 for details.	
INTERFACES	Return over IP	RTSP/RTP, Icecast (Audio)	
	Audio	AAC 2ch 128Kbps (1.5Mbps over), 64Kbps (0.8Mbps under)	
	Video/Audio output	3G-SDI output (BNC x 1) (up to 1920 x 1080 60p 4:2:2 10-bit), HDMI output x 1 (up to 3840 x 2160 60p 4:2:2 10-bit)	
	Audio input	XLR x 2 (MIC, +48V/LINE), $\phi$ 3.5mm mini jack x 1	
	Headphone	$\phi$ 3.5mm mini jack x 1	
	Remote	$\phi$ 2.5mm mini jack x 1	
	Time code input/output	RCA x 1	
PROVIDED ACCESSORIES	USB	HOST x 1 (network connection, USB 2.0)	
	Ethernet	RJ-45 x 1	
	Extended slot	KA-EN200, KA-MC100G, and for future expansion purposes	
	Battery (BN-VC296) x 1, AC adapter, power cable, lens hood, vent hood		

Various Codecs and Recording Formats

System	Video format	Resolution	Frame rate	Bit rate	Audio	Rec time (min.)		
4K UHD	ProRes 422 HQ	3840 x 2160	59.94p/50p/29.97p/25p/23.98p	1768/1475/884/737/707Mbps	LPCM 2ch 48kHz/24bit	67/80/134/161/167		
	ProRes 422			1178/983/589/492/471Mbps		101/121/201/240/251		
	ProRes 422 LT			821/684/410/342/328Mbps		144/173/288/345/359		
	QuickTime (MPEG-4.AVC/H.264)	3840 x 2160	29.97p/25p/23.98p	4:2:2 10-bit 150Mbps	LPCM 2ch 48kHz/24bit	50		
4:2:0 8-bit	150Mbps			LPCM 2ch 48kHz/16bit	50			
	70Mbps			LPCM 2ch 48kHz/16bit	106			
HD	ProRes 422 HQ	1920 x 1080	59.94p/50p/29.97p/25p/23.98p	440/367/220/184/176Mbps	LPCM 2ch 48kHz/24bit	240/290/480/570/600		
	ProRes 422			293/245/147/122/117Mbps		360/430/710/850/890		
	QuickTime (MPEG-4.AVC/H.264)	1920 x 1080	59.94p/50p	4:2:2 10-bit	70Mbps (422 XHQ)	LPCM 2ch 48kHz/24bit	105	
					50Mbps (422 XHQ)		145	
		1280 x 720	59.94p/50p	4:2:0 8-bit	50Mbps (XHQ)	LPCM 2ch 48kHz/16bit	147	
					35Mbps (UHQ)		207	
	Exchange (U model) MP4 (E/EC model)	1920 x 1080	59.94p (U model only) / 50p (E/EC model only)	4:2:0 8-bit	12Mbps (LP)	AAC 2ch 48kHz/16bit	580	
		1280 x 720			8Mbps (LP)		794	
	SD	QuickTime (MPEG-4.AVC/H.264)	720 x 480 (U model)	59.94i	4:2:0 8-bit	LPCM 2ch 48kHz/16bit	785	
			720 x 576 (E/EC model)	50i				
WEB (Proxy)	QuickTime (MPEG-4.AVC/H.264)	1280 x 720	60p/50p	4:2:0 8-bit	$\mu$ -law 2ch 16kHz	1040		
		720 x 480	59.94i			760		
		720 x 576	50i			2160		
		960 x 540	29.97p/25p/23.98p			4720		
High-Speed	QuickTime (MPEG-4.AVC/H.264)	1920 x 1080	120fps	59.94p	4:2:2 10-bit	LPCM 2ch 48kHz/24bit	(Defers by setting)	
			100fps	50p				70Mbps (XHQ422)
			120fps	59.94p/29.97p/23.98p	4:2:0 8-bit	LPCM 2ch 48kHz/16bit		50Mbps (XHQ422)
			100fps	50p/25p				50Mbps (XHQ)
			120fps	59.94p/29.97p/23.98p	4:2:0 8-bit	LPCM 2ch 48kHz/16bit		50Mbps (XHQ)
			100fps	50p/25p				35Mbps (UHQ)
			120fps	29.97p/23.98p	4:2:0 8-bit	LPCM 2ch 48kHz/16bit		35Mbps (UHQ)
			100fps	25p				

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