

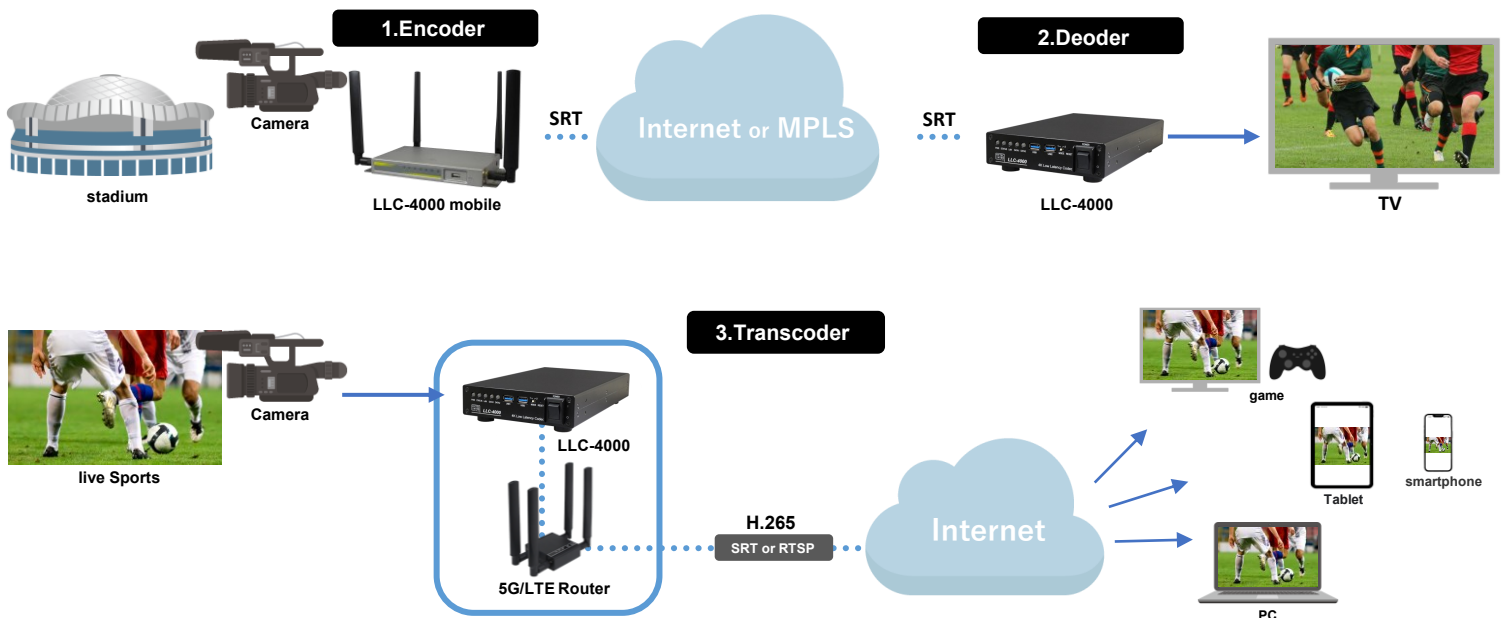
**4K Video Encoder
Decoder optimized for 5G/LTE**

LLC-4000

LLC-4000 is a 4K video encoder / decoder system featuring accurate Videostream bandwidth management called PRC (Peak Rate Control). This feature enables to transmit 4K Video over 5G networks without multiple mobile network bonding.

Features

- 4K 60fps / 5-20Mbps (Uplink 5G)
- Full HD 60fps / 3Mbps, 30fps 1.5Mbps (Uplink LTE)
- Glass to Glass Low Latency system over Private 5G (Encoder / Decoder latency is less than 50 msec)
- No need to consider video packet buffer and burst traffic (PRC enables to control Video packet bandwidth. CBR cannot manage precise control.)
- Bandwidth addition is quick and easy.
- Error Correction features (FEC, ARQ, SRT)



4K Video Encoder/Decoder optimized for 5G/LTE

Video Codec

Built around leveraging full support for both H.264/AVC and H.265/HEVC.

Video Streaming Protocol Flexibility

Multiple video streaming protocols are supported including UDP, RTSP / RTP, and multicast. Additionally, both IPv4 and IPv6 networks will be supported.

Narrowband Video Quality Control

Our Peak Rate Control technology precisely manages input bandwidth so not to exceed a specified maximum, enabling stable and reliable video transmission that maintains clear video quality even in heavily constrained networks. In addition, Forward Error Correction and ARQ (retransmission control) can be enabled for error concealment and secure transmission.

Roi (Region of Interest)

ROI mode when enabled maintains clear video quality in a selected area while input bandwidth is limited to a specified data rate. The selected area can be changed from the management portal.

Video Display Output

Up to four streams can be simultaneously decoded and output in a four way split screen mapped display.

Video Input/Output

Video input/output by HDMI is supported directly. Additionally, HD-SDI is supported via video converter.

Audio Input/Output

Audio input/output via either HDMI or USB interface.

Specification

Product		Encoder	Decoder
Video	Input Resolution	2160P(3840 × 2160)@25Hz,30Hz,50Hz,60Hz 1080P(1920 × 1080)@25Hz,30Hz,50Hz,60Hz 1080i(1920 × 1080)@50Hz,60Hz ※1	2160P(3840 × 2160)@25Hz,30Hz,50Hz,60Hz 1080P(1920 × 1080)@25Hz,30Hz,50Hz,60Hz
	Codec Resolution	128 × 90 ~ 3840 × 2160	
	Codec	HEVC/AVC	
	Framerate	2 ~ 60fps	
	Bitrate	20kbps ~ 25Mbps	
Mixing	Setup of video output as 2160P : 1920 × 1080 input stream × 4 stream → 4 split screen display Setup of video output as 1080P: 960 × 540 input stream × 4 stream → 4 split screen display		
Audio	Sampling	48KHz	
	Codec	AAC-LC/Opus	
	Bitrate	AAC-LC : 64kbps ~ 320kbps Opus : 8kbps ~ 160kbps	
Network	Protocol	TCP/IP, UDP/IP, Multicast, SRT(server), RTSP(server)	TCP/IP, UDP/IP, Multicast, SRT(client)
	QoS ※2	FEC (Error Correction) / ARQ (Retransmission)	
I/O	Video/Audio	HDMI2.0 x 1	HDMI2.0 x 1
	Network	10/100BASE-TX/1000BASE-T x 1	
	Other	USB3.0 (Type-A) x 2 (Can be used for audio input/output)	
	Power	DC +12V (equal or less than 20W)	
Operating Temperature/Humidity	Operating Temp: -10 ~ +50°C / Humidity: 10% ~ 80% (non-condensing)		
Dimensions/Weight	154(W) x 39(H) x 253(D) mm (excluding protrusions) Under 1.0kg (excluding AC Adapter)		

※ 1 : 1080i @ 50,60Hz input is converted to progressive format and encoded
 ※ 2 : This function is not supported by SRT and RTSP protocols

LLC-4000 standalone (2023 Q2 release)
 LLC-4000 mobile (2024)
 LLC-4000 vehicle mount (2024)

Product Appearance



The specification and appearance are subject to change without notice for improvements. Please check for the latest information when purchasing and using this product. When using our products, be sure to read the specifications and instruction manuals and use them according to the guidelines.



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