USB-C Encoder/Decoder

NJR-L11UC-T/NJR-L21UC-R

The NJR-L11UC-T/NJR-L21UC-R are an encoder/decoder set for transmitting HDMI and USB-C video signals, RS-232C, LAN, and USB over CAT6A for point-to-point or AV over IP distribution. These NJR devices support video resolutions up to 4K@60 (4:4:4) and is HDCP 2.2 compliant.

For video inputs, the NJR-L11UC-T encoder includes one (1) USB-C which is output over CAT6A (SDVoE) to the decoder. The NJR-L21UC-R (decoder) has one (1) USB-C input and one (1) 10GbE CAT (SDVoE), one of which can be selected and output out the local HDMI output.

The NJR-L11UC-T (encoder) features one (1) USB host port and one (1) USB device port. The NJR-L21UC-R (decoder) includes two (2) USB host ports and three (3) USB device ports enable host switching and USB hub features. Host privileges are assigned to the channel that's been selected. If the encoder becomes the host, the USB devices attached to the decoder are shared to the encoder over a single CAT6A cable, or vice versa. The Host can connect to the USB devices of either the NJR-L11UC-T or NJR-L21UC-R.
Additionally, the USB-C connector supports USB Power Delivery that can provide power up to 75 W.

The NJR can be configured and controlled remotely using RS-232C or LAN.

This product can be used in combination with other SDVoE products within IDK's product portfolio.

■ Specification

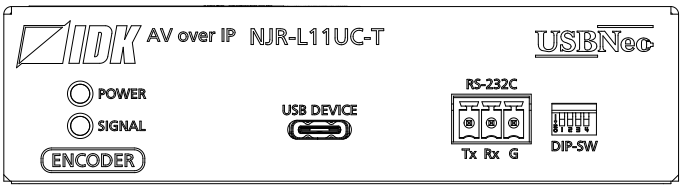
		NJR-L11UC-T	NJR-L21UC-R
Video/Audio input	USB-C	1 input	
		DisplayPort Alternate Mode on USB Type-C[*1], DisplayPort 1.2, HDCP 1.4/2.2	
		640x480@60 to 3840x1600@60 Reduced Blanking 480p, 576p to 3840x2160@24/25/30/50/59.94/60 (4:4:4), 4096x2160@24/25/30/50/59.94/60 (4:4:4) Color depth: 24/30/36 bits *For all supported video signals, see the table below.	
		LPCM: Up to 2 channels Sampling frequency: 32/44.1/48/88.2/96/176.4/192 kHz Reference level: -20 dBFS, Max. input level: 0 dBFS	
		USB 2.0 compatible Host side, RS-232C USB PD (Power Delivery)[*2] Supply up to 75 W (5 V 3 A, 9 V 3 A, 15 V 3 A, 20 V 3.75 A)	
		Connector: USB Type-C Maximum distance[*3]: 6.5 ft. (2 m)	
	10GbE[*5]	—	1 input
		SDVoE, AES-128 Deep Color/HDR[*4]	
		*Supported video signals are the same as those of HDMI.	
		RS-232C/LAN/USB 2.0 compatible	
		Connector: RJ-45 Maximum distance[*3]: 328 ft. (100 m) Cable: CAT6A (STP)	
Video/Audio output	HDMI	—	1 output
		HDMI/DVI 1.0 TMDS single link, HDCP 1.4/2.2 TMDS clock: Up to 300 MHz, TMDS data rate: Up to 18 Gbps Deep Color/HDR[*4]	
		640x480@60 to 3840x1600@60 Reduced Blanking 480i,576i to 3840x2160@24/25/30/50/59.94/60 (4:4:4), 3840x2160@50/59.94/60 (4:2:0), 4096x2160@24/25/30/50/59.94/60 (4:4:4), 4096x2160@50/59.94/60 (4:2:0) Color depth: 24/30/36 bits *For all supported video signals, see the table below.	
		LPCM: Up to 8 channels Sampling frequency: 32/44.1/48/88.2/96/176.4/192 kHz Reference level: -20 dBFS, Maximum output level: 0 dBFS	
		Connector: HDMI Type A Maximum distances[*3]: 98 ft. (30 m) (1080p@60), 39 ft. (12 m) (4K@60)	
	10GbE[*5]	1 output	—
		SDVoE, AES-128 Deep Color/HDR[*4]	
		*Supported video signals are the same as those of HDMI.	
		RS-232C/LAN/USB 2.0 compatible	
		Connector: RJ-45 Maximum distance[*3]: 328 ft. (100 m) Cable: CAT6A (STP)	
Other I/F	RS-232C	1 port, Connector: Captive screw (3-pin)	
	LAN	1 port, 10Base-T/100Base-TX (Auto Negotiation), Auto MDI/MDI-X, Connector: RJ-45	
	USB[*6*7]	—	Host side 1 port, USB 2.0 compatible, RS-232C Connector: Type-C × 1
		Device side 1 port, USB 2.0 compatible, Supply up to 5 V 500 mA / port Connector: Type-C × 1	Device side 3 ports, USB 2.0 compatible, Supply up to 5 V 500 mA / port Connector: Type-C × 1, Type-A × 2
Functions	Control	Unsolicited notification	
	Others	EDID emulation	Automatic input switching, EDID emulation, Last memory, Anti-snow, Connection reset[*8], Button security lockout, USB host switching (3 ports)
General	Power[*2]	DC 24 V 4.0 A DC 12 V 1.8 A	DC 24 V 4.3 A DC 12 V 1.8 A
		AC adapter: AC 100 V - 240 V ±10%, 50 Hz/60 Hz ±3 Hz、DC 24 V 5 A 120 W or AC 100 V - 240 V ±10%, 50 Hz/60 Hz ±3 Hz、DC 12 V 3 A 36.0 W	
	Power consumption	DC 24 V 18 W (93 W with External loading) DC 12 V 13 W (15 W with External loading)	DC 24 V 26 W (101 W with External loading) DC 12 V 15 W (22 W with External loading)

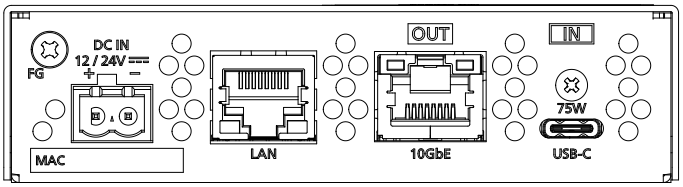
		NJR-L11UC-T	NJR-L21UC-R
General	Dimensions	4.2 (W) × 1.1 (H) × 7.9 (D)” (106 (W) × 28 (H) × 200 (D) mm) (Excluding connectors and the like)	8.3 (W) × 1.2 (H) × 5.9 (D)” (210 (W) × 30 (H) × 150 (D) mm) (Excluding connectors and the like)
	Weight	1.8 lbs. (0.8 kg)	2.4 lbs. (1.1 kg)
	Temperature	Operating: 32°F to 104°F (0°C to +40°C), Storage: -4°F to +176°F (-20°C to +80°C)	
	Humidity	20% to 90% (Non Condensing)	

*1 DisplayPort to USB-C cable or HDMI to USB-C cable are not supported.
*2 For USB PD (Power Delivery), use DC 24 V power supply. For supplying power of more than 60 W, use an USB-C cable supporting 5 A.
*3 The maximum specified distances may not be achievable with some device combinations, cabling method, or other manufacturer’s cable. For the same reasons, video signal disturbances or interruptions may occur, even if signals are within the specified distance (cable length) parameters.
The maximum cable length varies depending on the connected devices. The specifications have been qualified under following conditions:
・USB-C DisplayPort Alternate Mode (4K@60) : When USB3.2 Gen1 Type-C cable was used and signal of 3840x2160@60 24 bits was transmitted.
・HDMI (1080p@60) : When IDK cable was used and signal of 1080p@60 24 bits was transmitted.
・HDMI (4K@60) : When IDK’s 18 Gbps supported cable was used and signal of 3840x2160@60 24 bits was transmitted.
・10GbE : When CAT6A (STP) cable is used.
*4 x.v.Color/3D/ARC/HEC/CEC are not supported.
*5 For 10GbE extension, use this product in combination with IDK’s other SDVoE supported product.
*6 For connecting USB hubs, up to two tiers can be cascaded.
*7 USB devices may not perform correctly depending on the environment and connected devices.
*8 It creates the same condition as if the cable were physically disconnected and reconnected. This feature only works for the NJR’s output. Connecting other devices between the NJR’s outputs and sink devices, may interfere with the operation of this feature.

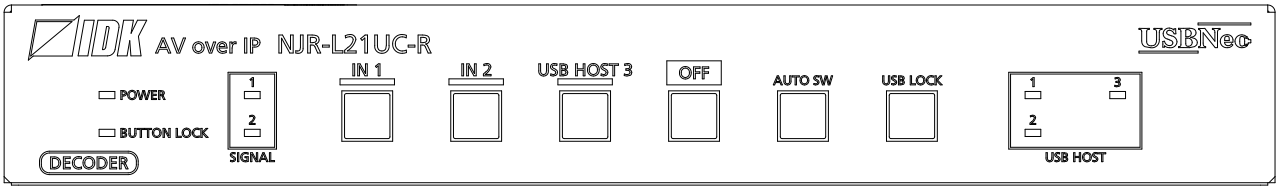
■ Front & Rear Panels

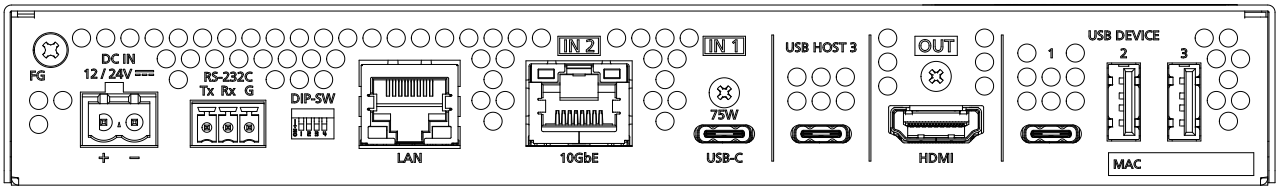
NJR-L11UC-T





NJR-L21UC-R





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USB-C Encoder/Decoder

NJR-L11UC-T/NJR-L21UC-R supported video signals

Signal	Resolution	Frame Rate [Hz]	Pixel Clock [MHz]	Color Depth [bits]	INPUT		OUTPUT
					USB-C*1	HDMI 10GbE	HDMI 10GbE
640x480@60	640x480	59.94	25.18	24/30/36	○	○	○
800x600@60	800x600	60.32	40.00	24/30/36	○	○	○
1024x768@60	1024x768	60.00	65.00	24/30/36	○	○	○
1280x768@60	1280x768	59.87	79.50	24/30/36	○	○	○
1280x800@60	1280x800	59.81	83.50	24/30/36	○	○	○
1280x960@60	1280x960	60.00	108.00	24/30/36	○	○	○
1280x1024@60	1280x1024	60.02	108.00	24/30/36	○	○	○
1360x768@60	1360x768	60.02	85.50	24/30/36	○	○	○
1366x768@60	1366x768	59.79	85.50	24/30/36	–	○	○
1400x1050@60	1400x1050	59.98	121.75	24/30/36	○	○	○
1440x900@60	1440x900	59.89	106.50	24/30/36	○	○	○
1600x900@60	1600x900	59.95	118.25	24/30/36	○	○	○
1600x1200@60	1600x1200	60.00	162.00	24/30/36	○	○	○
1680x1050@60	1680x1050	59.95	146.25	24/30/36	○	○	○
1920x1080@60 RB	1920x1080	59.93	138.50	24/30/36	○	○	○
1920x1200@60 RB	1920x1200	59.95	154.00	24/30/36	○	○	○
2048x1152@60 RB	2048x1152	60.00	162.00	24/30/36	○	○	○
2560x1080@60	2560x1080	60.00	198.00	24/30/36	○	○	○
2560x1440@60 RB	2560x1440	59.95	241.50	24/30/36	○	○	○
2560x1600@60 RB	2560x1600	59.97	268.50	24/30/36	○	○	○
3240x1080@60 RB	3240x1080	59.96	226.50	24/30/36	○	○	○
3440x1440@60 RB	3440x1440	59.97	319.75	24/30/36	○	○	○
3840x1080@60 RB	3840x1080	59.97	266.50	24/30/36	○	○	○
3840x1600@60 RB	3840x1600	59.99	395.00	24/30/36	○	○	○
480i	720x480	59.94	27.00	24/30/36	–	○	○
480p	720x480	59.94	27.00	24/30/36	○	○	○
576i	720x576	50.00	27.00	24/30/36	–	○	○
576p	720x576	50.00	27.00	24/30/36	○	○	○
720p@50	1280x720	50.00	74.25	24/30/36	○	○	○
720p@59.94	1280x720	59.94	74.18	24/30/36	○	○	○
720p@60	1280x720	60.00	74.25	24/30/36	○	○	○
1080i@50	1920x1080	25.00	74.25	24/30/36	–	○	○
1080i@59.94	1920x1080	29.97	74.18	24/30/36	–	○	○
1080i@60	1920x1080	30.00	74.25	24/30/36	–	○	○
1080p@50	1920x1080	50.00	148.50	24/30/36	○	○	○
1080p@59.94	1920x1080	59.94	148.35	24/30/36	○	○	○
1080p@60	1920x1080	60.00	148.50	24/30/36	○	○	○
3840x2160@23.98	3840x2160	23.98	296.70	24/30/36	○	○	○
3840x2160@24	3840x2160	24.00	297.00	24/30/36	○	○	○
3840x2160@25	3840x2160	25.00	297.00	24/30/36	○	○	○
3840x2160@29.97	3840x2160	29.97	296.70	24/30/36	○	○	○
3840x2160@30	3840x2160	30.00	297.00	24/30/36	○	○	○
3840x2160@50	3840x2160	50.00	594.00	24/30/36*2	○	○	○
3840x2160@59.94	3840x2160	59.94	593.41	24/30/36*2	○	○	○
3840x2160@60	3840x2160	60.00	594.00	24/30/36*2	○	○	○
4096x2160@23.98	4096x2160	23.98	296.70	24/30/36	○	○	○
4096x2160@24	4096x2160	24.00	297.00	24/30/36	○	○	○
4096x2160@25	4096x2160	25.00	297.00	24/30/36	○	○	○
4096x2160@29.97	4096x2160	29.97	296.70	24/30/36	○	○	○
4096x2160@30	4096x2160	30.00	297.00	24/30/36	○	○	○
4096x2160@50	4096x2160	50.00	594.00	24/30/36*2	○	○	○
4096x2160@59.94	4096x2160	59.94	593.41	24/30/36*2	○	○	○
4096x2160@60	4096x2160	60.00	594.00	24/30/36*2	○	○	○

RB: Reduced Blanking
*1 YCbCr 4:2:0 is not supported.
*2 For RGB/YCbCr 4:4:4, only 24 bit is supported.

For best results, please confirm that the source device(s) video output can be configured to match the listed formats above.