HDMI Transceiver

NJR-P01UFR-TR

The NJR-P01UFR-TR is a transceiver for transmitting and receiving 4K@60 HDMI signals simultaneously over a 10GbE AV over IP network via fiber optic cables.
The transceiver incorporates robust Neutrik connectors and a ruggedized chassis to accommodate event/staging market needs.

This product can be used in combination with IDK's SDVoE supported products.

■ Specification

		NJR-P01UFR-TR
Video/Audio input	HDMI	1 input
		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[*1]
		640x480@60 to 3840x2160@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, Max. input level: 0 dBFS
		Connector: HDMI Type A (19-pin, Neutrik's) Maximum distances[*2]: 16 ft. (5 m) (1080p@60), 9.8 ft. (3 m) (4K@60)
	Analog audio	1 input
		Stereo L/R Input impedance: 24 kΩ unbalanced Reference level: -10 dBu, Max. input level: +10 dBu
		Connector: TS Phone
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[*1]
		640x480@60 to 3840x2160@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, Max. output level: 0 dBFS
		Connector: HDMI Type A (19-pin, Neutrik's) Maximum distances[*2]: 16 ft. (5 m) (1080p@60), 9.8 ft. (3 m) (4K@60)
	Analog audio	1 output
		Stereo L/R Output impedance: 50 Ω unbalanced Reference level: -10 dBu, Max. output level: +10 dBu
		Connector: TS Phone
Video/Audio input/output	10GbE	1 input/output *Input/Output can be carried simultaneously.
		SDVoE, AES-128 Deep Color/HDR[*1]
		*Supported video signals are the same as those of HDMI.
		LAN
		Connector: LC (Duplex, Neutrik's opticalCON DUO series) Maximum distances[*2]: 984 ft. (300 m) (OM3 Multimode fiber), 6.21 mi. (10 km) (OS1 Singlemode fiber)
Control I/F	LAN	1 port/10Base-T/100Base-TX/1000Base-T (Auto Negotiation), Auto MDI/MDI-X, Connector: RJ-45 (Neutrik's etherCON type)
Functions		EDID emulation, Connection Reset[*3]
General	Power	AC 100 V - 240 V ±10%, 50 Hz/60 Hz ±3 Hz, Connector: Neutrik's powerCON
	Power consumption	12 W
	Dimensions	9.7 (W) × 1.7 (H) × 11.4 (D)" (246 (W) × 44 (H) × 290 (D) mm) (Excluding connectors and the like)
	Weight	4.9 lbs. (2.2 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] x.v.Color/3D/ARC/HEC/CEC are not supported.

[*2] 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:
- HDMI (1080p@60) : When IDK's 24 AWG 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.

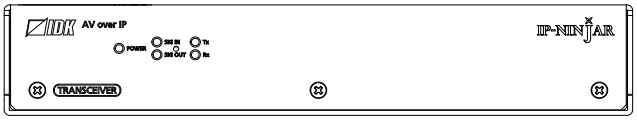
[*3] For digital systems, some problems, such as an HDCP authentication error, can often be recovered by physically disconnecting and reconnecting the digital cables. However, the Connection Reset feature will correct these problems automatically without the need to physically plug and unplug the cables. It creates the same condition as if the cable were physically disconnected and reconnected. This feature only works for the NJR-P's output. Connecting other devices between the NJR-P's outputs and sink devices, may interfere with the operation of this feature.

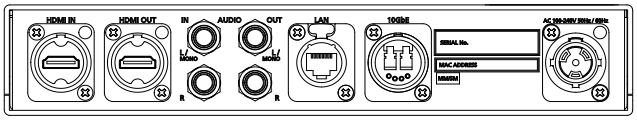
■ **Specification of optical signal**

型番	NJR-P01UFR-TR-MM	NJR-P01UFR-TR-SM
Fiber	Multimode fiber	Singlemode fiber
Wave length	850 nm (VCSEL laser)	1310 nm (DFB laser)
Laser safety	Class1 (JIS C 6802、IEC60825-1)	
Max. transmission distances*	OM3: 984 ft. (300 m)	OS1: 6.21 mi. (10 km)
Receiver sensitivity (OMA) @10.3Gbps	-11.1 dBm or higher	-12.6 dBm or higher
Average Launch Power	-7.3 dBm to -1 dBm	-8.2 dBm to +0.5 dBm
Max. input power	+0.5 dBm	+0.5 dBm
Recommended polishing	PC	UPC, SPC (APC is not supported)

*The specifications have been qualified under following conditions: A recommended fiber is employed, no connection on the path, and it is within allowable bending radius.

■ **Front & Rear Panels**





HDMI Transceiver

NJR-P01UFR-TR supported video signals

Signal	Resolution	Frame Rate [Hz]	Pixel Clock [MHz]	Color Depth [bits]	INPUT	OUTPUT
					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	○	○
2560x1440@60 RB	2560x1440	59.95	241.50	24/30/36	○	○
2560x1600@60 RB	2560x1600	59.97	268.50	24/30/36	○	○
3840x2160@60 RB	3840x2160	60.00	522.61	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*	○	○
3840x2160@59.94	3840x2160	59.94	593.41	24/30/36*	○	○
3840x2160@60	3840x2160	60.00	594.00	24/30/36*	○	○
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*	○	○
4096x2160@59.94	4096x2160	59.94	593.41	24/30/36*	○	○
4096x2160@60	4096x2160	60.00	594.00	24/30/36*	○	○

RB: Reduced Blanking
*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. For questions regarding other input video signals, please contact your IDK representative.