NJR-TW01UHD/NJR-RW01UHD

4K@60/HDCP 2.2 AV HDMI Network Extender, Rugged Chassis

with your vision, Always.

The NJR-W01UHD is a point-to point AV over IP solution for high definition signal extension via fiber optic cables. This IP-NINJAR model employs Neutrik's robust connector and rugged and lightweight chassis to accommodate event/staging market needs.

The NJR-W01UHD leverages 10 Gb Ethernet switches to control 4K@ 60 (4:4:4) signals with zero frame latency.
RS-232C bidirectional communication and LAN transmission are also supported.
Combined with the NJR-R04HD, 4K@60 signal that is sent from the NJR-TW01UHD can be divided into four 1080p@60 signals and be displayed on sink devices. When using the NJR-T04HD and the NJR-RW01UHD together, four ports' 1080p@60 signals that is sent from the NJR-T04HD can be displayed as 4K@60 signals on a sink device.

Please use this product with a combination of NJR-TW01UHD and NJR-RW01UHD or other IP-NINJAR products. It cannot be connected to OPF or FDX series products.

FRONT & REAR PANEL

NJR-TW01UHD (LAN supported model)

NJR-TW01UHD (RS-232C supported model)

NJR-RW01UHD

FEATURES

■ **Video**
- Up to 4K@60 (4:4:4)
- HDCP 1.4/2.2
- HDR
- Local monitor output
- Transmission distances
  Multimode fiber (OM3) : Up to 984 ft. (300 m)
  Singlemode fiber (OS1) : Up to 6.21 mi. (10 km) (up to 40 km, optional)

■ **Audio**
- De-embedding

■ **Communication**
- Bidirectional RS-232C for NJR-TW01UHD (RS-232C supported model) and NJR-RW01UHD
- LAN for NJR-TW01UHD (LAN supported model) and NJR-RW01UHD

■ **Network**
- 10 Gb switch allows; extension, distribution, matrix switching, videowall, and Multiview
- Controllable through network using NJR-CTB
- IP-NINJAR encoders and decoders can easily be added and replaced

■ **Others**
- EDID emulation
- DDC buffer
- Connection Reset
- Neutrik's robust connector with locking mechanism and rugged and lightweight chassis
- Fanless (No fan noise)

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IP-NINJAR WARRIOR

SPECIFICATIONS

Item		NJR-TW01UHD (Encoder)	NJR-RW01UHD (Decoder)
Input		1 input HDMI (*1)/DVI 1.0 TMDS single link HDCP 1.4/2.2, HDR (*2) EDID emulation Connector: Neutrik's female HDMI Type A (19-pin) (*3)	1 input Digital signal for extension Format: IP-NINJAR protocol RS-232C, LAN Connector: Neutrik's LC (opticalCON DUO series)
Output		1 output Digital signal for extension Format: IP-NINJAR protocol RS-232C, LAN Connector: Neutrik's LC (opticalCON DUO series)	1 output HDMI (*1)/DVI 1.0 TMDS single link HDCP 1.4/2.2, HDR (*2) Connector: Neutrik's female HDMI Type A (19-pin) (*3)
		1 output for monitoring input signals HDMI (*1)/DVI 1.0 TMDS single link HDCP 1.4/2.2, HDR (*2) Connector: Neutrik's female HDMI Type A (19-pin) (*3)	
Format		VGA / SVGA / XGA / WXGA (1280x768) / WXGA (1280x800) / Quad-VGA / SXGA / WXGA (1360x768) / WXGA (1366x768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / VESAHD / WUXGA / QWXGA / 4K (*4) 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (*4)	
Color depth		24 bit, 30 bit, 36 bit Deep Color (*5)	
Dot clock		25 MHz to 600 MHz	
TMDS clock		25 MHz to 300 MHz	
TMDS data rate		0.75 Gbps to 18 Gbps	
Digital audio input		Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz Sample size: 16 bit to 24 bit Reference level: -20 dBFS, Max. input level: 0 dBFS	—
Digital audio output		Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz Sample size: 16 bit to 24 bit Reference level: -20 dBFS, Max. output level: 0 dBFS	Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz Sample size: 16 bit to 24 bit Reference level: -20 dBFS, Max. output level: 0 dBFS
Analog audio output		1 output Stereo LR balanced Output impedance: 100 Ω balanced Reference level: -10 dBu, Max. output level: +10 dBu Connector: Neutrik's 2 female XLR (3-pin)	1 output Stereo LR balanced Output impedance: 100 Ω balanced Reference level: -10 dBu, Max. output level: +10 dBu Connector: Neutrik's 2 female XLR (3-pin)
Cable for extension	Polishing (*6)	For multimode : PC polishing (recommended) For singlemode : UPC polishing (recommended), SPC *APC is not supported	
	Transmission distances (*7)	Multimode fiber (OM3) : Up to 984 ft. (300 m) Singlemode fiber (OS1) : Up to 6.21 mi. (10 km) Singlemode fiber (OS1) : Up to 24.85 mi. (40 km, optional)	
External control	RS-232C	1 port for RS-232C supported model Neutrik's male D-sub (9 pin) connector Full duplex, up to 115.2 kbps	1 port Neutrik's male D-sub (9 pin) connector Full duplex, up to 115.2 kbps
	LAN	1 port for LAN supported model Neutrik's RJ-45 (etherCON type) 10Base-T/100Base-TX/1000Base-T (Auto Negotiation), Auto MDI/MDI-X	1 port Neutrik's RJ-45 (etherCON type) 10Base-T/100Base-TX/1000Base-T (Auto Negotiation), Auto MDI / MDI-X
Function		DDC buffer, Connection Reset	
General	Power	100 - 240 VAC ± 10%, 50 Hz/60 Hz ± 3 Hz Neutrik's powerCON type	
	Power consumption	About 18 Watts	About 17 Watts
	Dimensions	8.5 (W) × 1.7 (H) × 11.4 (D)" (216 (W) × 44 (H) × 290 (D) mm) (Almost equivalent to half rack wide, 1U high) (Excluding connectors and the like)	
	Weight	4.6 lbs. (2.1 kg)	4.6 lbs. (2.1 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	Operating/Storage: 20% to 90% (Non Condensing)	

*1 x.v.Color, 3D, ARC, HEC, and CEC are not supported.
*2 HDR is supported if the connected sink device supports HDR and its copied EDID is set for EDID setting.
*3 Use the following HDMI cables:
・1080p@60 : High-speed HDMI cable (16 ft.(5 m) or shorter)
・4K@60 : Premium HDMI cable (10 ft. (3 m) or shorter)
The maximum cable distance depends on the connected devices. The distance may not be extended with some device combinations, cabling method, or other manufacturer's cable. Video may be disturbed or may not be output even if signals are within the range mentioned above.
*4 4K format: 24 Hz/25 Hz/30 Hz/50 Hz (4:4:4)/59.94 Hz (4:4:4)/60 Hz (4:4:4) are supported.
*5 4K format: Only 24 bit is supported.
*6 We do not recommend other polishing methods because it increases the return loss.
*7 The maximum extension distance is measured under the following conditions: Fiber that is polished by a recommended method is used; there is no interconnection; it does not exceed the allowable bending radius.

■ **Specification of optical signal**

Item	NJR-W01UHD-MM	NJR-W01UHD-SM	NJR-W01UHD-SM40 (Optional)
Fiber	Multimode fiber	Singlemode fiber	Singlemode fiber
Wave length	850 nm (VCSEL laser*)	1310 nm (DFB laser*)	1550 nm (EML laser*)
Max. transmission distances	OM3: 984 ft. (300 m)	OS1: 6.21 mi. (10 km)	OS1: 24.85 mi. (40 km)
Receiver sensitivity (OMA) @10.3Gbps	-11.1 dBm or higher	-12.6 dBm higher	-16 dBm higher
Average Launch Power	-5 dBm to -1 dBm	-8.2 dBm to +0.5 dBm	-1 dBm to +2 dBm
Max. input power	+0.5 dBm	+0.5 dBm	-1 dBm
Connector	LC (Duplex)		

* These lasers meet class1.

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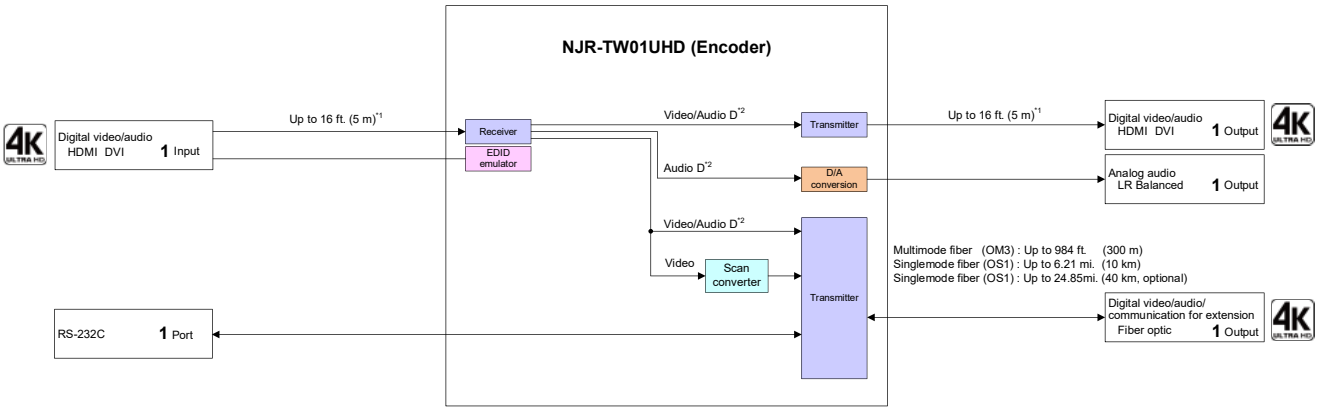
IP-NINJAR WARRIOR

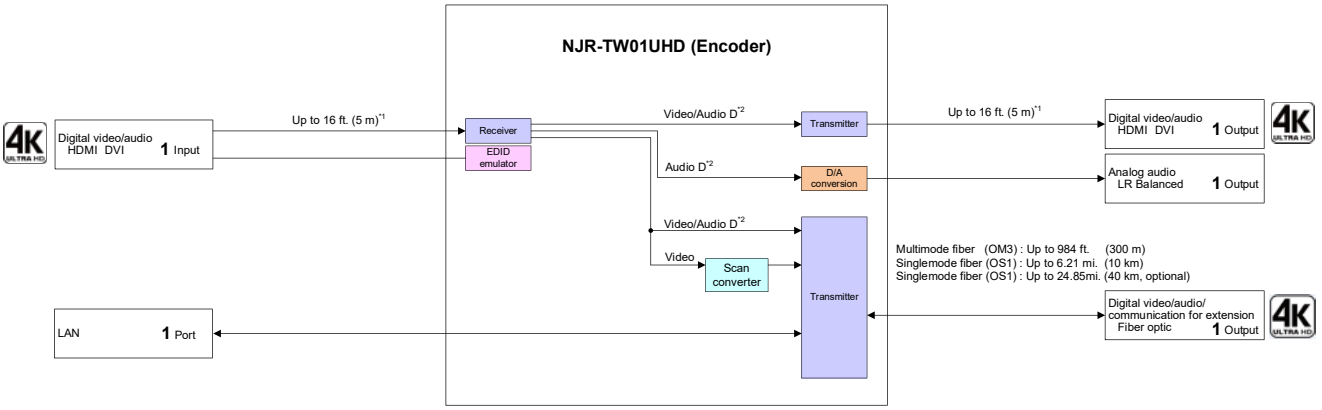
DIAGRAM

■ **NJR-TW01UHD (RS-232C supported model)**



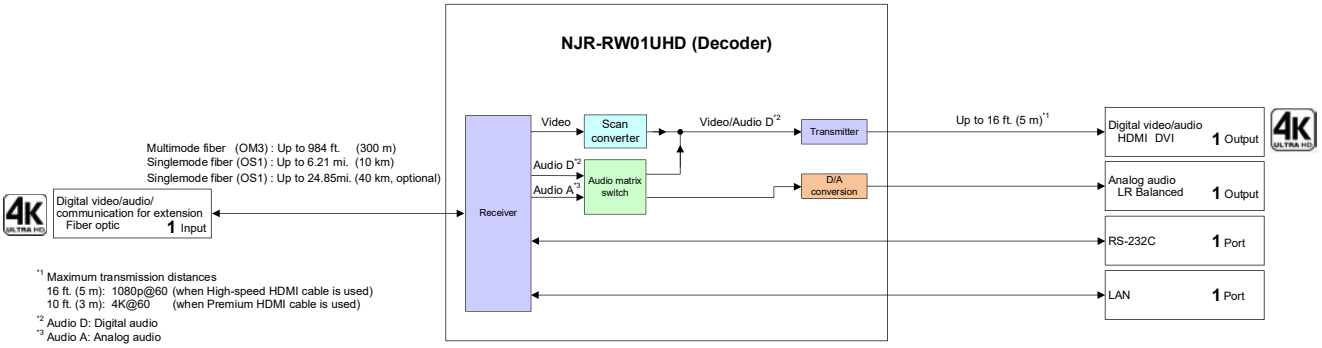
*1 Maximum transmission distances
16 ft. (5 m): 1080p@60 (when High-speed HDMI cable is used)
10 ft. (3 m): 4K@60 (when Premium HDMI cable is used)
*2 Audio D: Digital audio

■ **NJR-TW01UHD (LAN supported model)**



*1 Maximum transmission distances
16 ft. (5 m): 1080p@60 (when High-speed HDMI cable is used)
10 ft. (3 m): 4K@60 (when Premium HDMI cable is used)
*2 Audio D: Digital audio

■ **NJR-RW01UHD**



*1 Maximum transmission distances
16 ft. (5 m): 1080p@60 (when High-speed HDMI cable is used)
10 ft. (3 m): 4K@60 (when Premium HDMI cable is used)
*2 Audio D: Digital audio
*3 Audio A: Analog audio

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