

The IDK NJR-04HD is an HDMI network transmitter and receiver set which have built-in scan converter and scaler. This extender can transmit 4 channels of HDMI signal by one duplex fiber, and it supports RS-232C bidirectional communication and LAN transmission. It can be used for 4 inputs and 4 outputs matrix switcher or splitter. NJR-R04HD can configure four multi-display videowall by one unit, and it can configure larger videowall by using multiple units with synchronization signals.

The NT-T04HD/NT-R04HD can be used not only as a set of transmitter and receiver but also as a transmitter or receiver of "IP-NINJAR" series. When NJR-T01UHD and NJR-R04HD are used together in a system, NJR-R04HD can output 4K video image as four 1080p signals. When NJR-R01UHD and NJR-T04HD are used together in a system, NJR-R01UHD can output four 1080p signals from NJR-T04HD as one 4K video image (if the 4K content is protected by HDCP2.2, NJR-R04HD cannot output the image to a sink because NJR-04HD only support HDCP1.4). It cannot be connected to OPF series units or FDX.

### ■ Specification

Item			Description			
Model number			NJR-T04HD (Transmitter)	NJR-R04HD (Receiver)		
Input	Video	HDMI / DVI	Number / Signal	4 inputs / HDMI (*1), DVI 1.0 - HDCP 1.4 - TMDS Single Link - TMDS clock: 25 MHz to 225 MHz - TMDS data rate: 0.75Gbps to 6.75 Gbps	1 input / 10GbE Optical signal for extension	
			Connector	4 female HDMI Type A	2 LC connectors	
		Formats	Dot clock: 25 MHz to 165 MHz VGA / SVGA / XGA / WXGA (1280x768) / WXGA (1280x800) / Quad-VGA / SXGA / WXGA (1360x768) / WXGA (1366x768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / VESA1080 / WUXGA / QWXGA (*2) * WUXGA / QWXGA are only supported by Reduced Blanking 480i / 480p / 576i / 576p / 720p / 1080i / 1080p			
			Color depth	24bit	24bit, 30 bit Deep Color (*3)	
			Others	Built-in cable EQ, EDID emulation		
	Audio	Digital	Number / Signal	4 inputs / Multi-channel linear PCM (*4) 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	1 input / 10GbE Optical signal for extension	
			Connector	1 female HDMI Type A	2 LC connectors	
	Output	Video	HDMI / DVI	Number / Signal	1 output / 10GbE Optical signal for extension	4 outputs / HDMI (*1), DVI 1.0 - HDCP 1.4 - TMDS Single Link - TMDS clock: 25 MHz to 225 MHz - TMDS data rate: 0.75Gbps to 6.75 Gbps
				Connector	2 LC connectors	1 female HDMI Type A
			Formats	Dot clock: 25 MHz to 165 MHz VGA / SVGA / XGA / WXGA (1280x768) / WXGA (1280x800) / Quad-VGA / SXGA / WXGA (1360x768) / WXGA (1366x768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / VESA1080 / WUXGA / QWXGA (*2) * WUXGA / QWXGA are only output as Reduced Blanking 480i / 480p / 576i / 576p / 720p / 1080i / 1080p		
Color depth				24bit	24bit, 30 bit Deep Color (*3)	
Others				Built-in cable EQ		
Audio		Digital	Number / Signal	1 output / 10GbE Optical signal for extension	4 outputs / Multi-channel linear PCM (*4) up to 8 channels Sampling frequency: 32 kHz to 192 kHz Sample bit: 16 bit to 24 bit Reference level: -20 dBFS Max. input level: 0 dBFS	
			Connector	2 LC connectors	1 female HDMI Type A	
External sync. input/output			Number / Signal	-	1 input and 1 output / SYNC and CLK - Level: TTL * If you use external synchronization, please synchronize between IDK's NJR-R04HD only.	
			Connector	-	2 BNC	
Fiber optic cable		Suitable cable		Duplex fiber cable, SFP+ module (2 LC connectors)		
	Polishing (*6)		SFP+ for Multimode: PC (recommended) SFP+ for Singlemode: UPC (recommended), SPC supported * APC is not supported			
Signal transmission distance			Fiber (*7)	Multimode fiber (OM3): 984 ft (approx.) / 300 m Singlemode fiber (OS1): 6.2 miles (approx.) / 10 km		
			HDMI (EQ)	Max. 98.43 ft. approx. / 30 m (*5)	Max. 164.04 ft. approx. / 50 m (*5)	
Control	Serial control port	Number / Signal	1 port / Full duplex up to 115.2kbps			
		Connector	1 male 9-pin D-Sub			
	LAN control port	Number / Signal	1 port / 10Base-T, 100Base-TX, 1000Base-T (Auto Negotiation), Auto MDI/MDI-X			
		Connector	1 RJ-45			
Functions	Scan conversion		Motion adaptive I/P conversion Aspect ratio control	Aspect ratio control		
	Others		Matrix switching	Matrix switching, Lip-Sync (up to 160ms), Connection Reset (*8)		
Others	AC adapter		Input: 100 - 240 VAC ± 10 %, 50 Hz / 60 Hz ± 3 Hz Output: 12 VDC, 5 A 60 Watts (AC adapter is supplied)			
	Power consumption		About 33 Watts	About 35 Watts		
	Dimensions		8.27 × 1.73 × 9.84" (approx.) / 210 (W) × 44 (H) × 250 (D) mm (EIA 1/2U rack size, not including projections)			
	Weight		4.19 lbs. approx. / 1.9 kg	4.19 lbs. approx. / 1.9 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)			

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- \*1 x.v.Color, 3D, HEC, ARC, and CEC are not supported.
- \*2 UXGA / WUXGA / QWXGA are supported only when a system is configured by NJR-T04HD and NJR-R04HD. If NJR-T01UHD, NJR-R01UHD, and other transmitters and receivers are included in a system, UXGA / WUXGA / QWXGA are not supported and four channels of NJR-R04HD are same resolution.
- \*3 30 bit / pixel (10 bit / component) Deep Color is supported only when 1 channel of 4 input is transmitted.
- \*4 Together with 4 input channels, audio transmission of up to 8 channels is possible.
- \*5 The extension distance depends on connected I/O devices. The distance above is the maximum transmission distance when a cable made by IDK (AWG24) is used and signals, 1080p@60 24 bit / pixel (8 bit / component), are input or output. If the connected device is not matched to the unit or if other makers' cables are used, video signals can be unstable or video signals cannot be output, even though the transmission distance is within the distance above.
- \*6 Cables polished by other polishing methods can be connected, but we do not recommend them because an increase in return loss.
- \*7 The maximum extension distance was measured with a cable polished by the recommended method, no connection between the transmission, and within the allowable bending radius.
- \*8 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 fix 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 HDC's output. If other devices are connected between the HDC's output and sink device, this feature may be invalid.

■ SFP+

Item	10G-MM-SFP	10G-SM-SFP	10G-SM40-SFP(*10)
Fiber	Multimode fiber	Singlemode fiber	Singlemode fiber
Connector	2 LC connectors (Duplex)		
Wave length	850 nm (VCSEL Laser (*9))	1310 nm (DFB laser (*9))	1550 nm (EML laser (*9))
Max. extension distance	OM3: 984 ft (approx.) / 300 m	OS1: 6.2 miles (approx.) / 10 km	OS1: 24.8 miles (approx.) / 40 km
Max. input power	+0.5 dBm	+0.5 dBm	-1 dBm
Receiver sensitivity (OMA) @10.3Gbps	Over -11.1 dBm	Over -12.6 dBm	Over -16 dBm
Average Launch Power	-5 dBm to -1 dBm	-8.2 dBm to +0.5 dBm	-1 dBm to +2 dBm

\*9 The laser in this device meets class1.

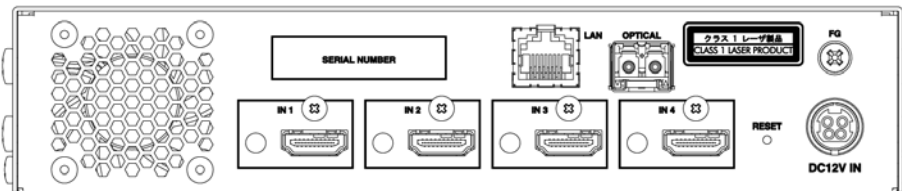
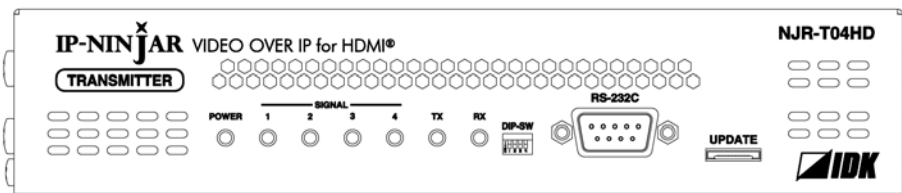
\*10 For single mode fiber SFP+, if you need a module that extends up to 24.8 miles / 40 km (OS1), please contact us.

■ Product Selection

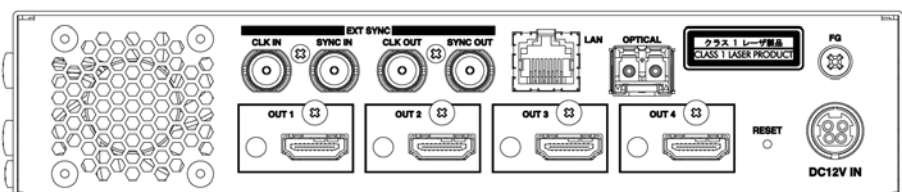
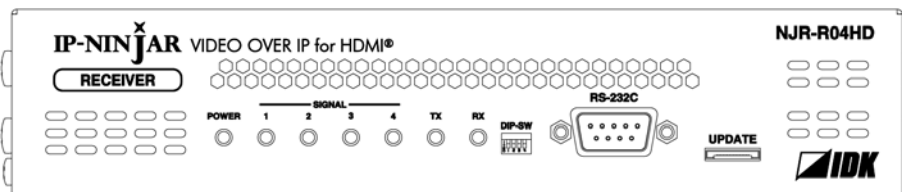
Parts Number	Fiber Type	Max. Distance
NJR-T04HD-MM	Multimode	OM3: 984 ft (approx.) / 300 m
NJR-R04HD-MM		
NJR-T04HD-SM	Singlemode	OS1: 6.2 miles (approx.) / 10 km
NJR-R04HD-SM		
NJR-T04HD-SM40	Singlemode	OS1: 24.8 miles (approx.) / 40 km
NJR-R04HD-SM40		

■ Front & Rear Panel

NJR-T04HD



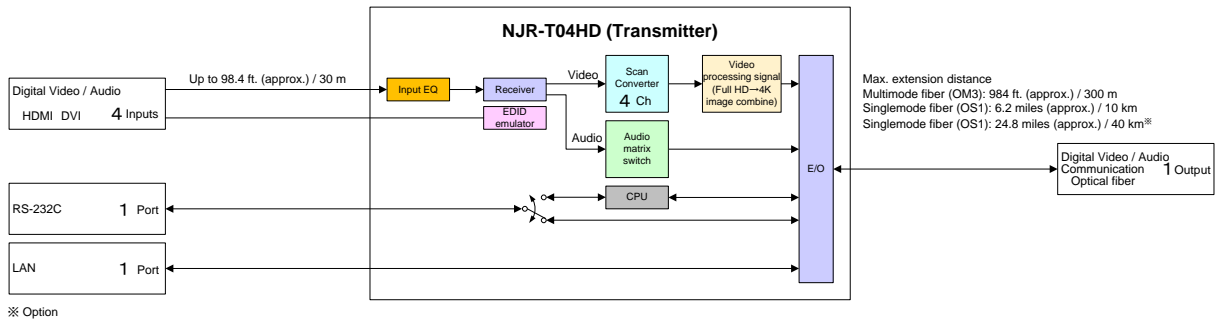
NJR-R04HD



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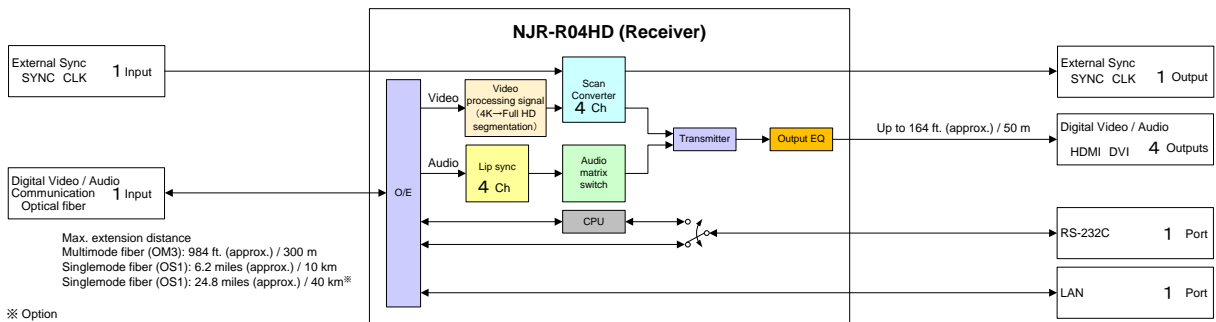
# 4 channel HDMI Network Extender NJR-04HD Diagram and Feature

■ Diagram  
**NJR-T04HD**



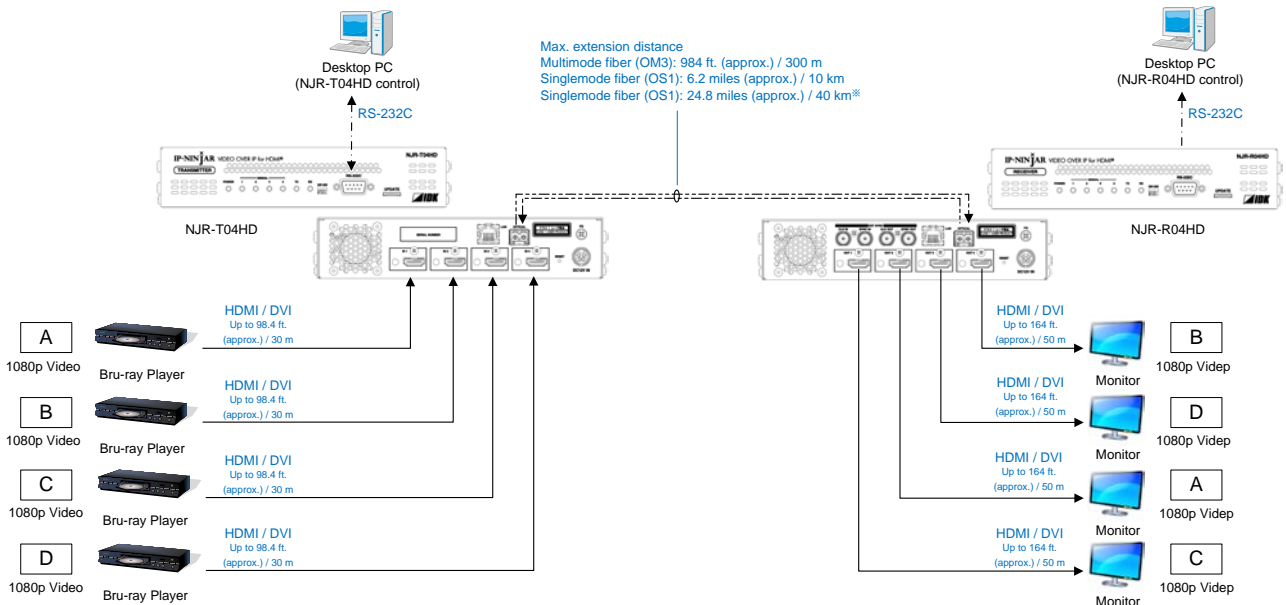
※ Option

**NJR-R04HD**



※ Option

■ Sample application diagram (using NJR-01UHD as point to point extender)



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