



# NJR-01UHD Specification

The IDK NJR-01UHD is an over IP solution for high definition signal extension via fiber optic cables or twisted pair cables. This 4K solution leverages 10 Gb Ethernet switches and enables signal management of 4K@ 60 (4:4:4) signals with zero latency. RS-232C bidirectional communication and LAN transmission are also supported.

The IDK NJR-01UHD can be used with other IP-NINJAR products. Combined with the NJR-R04HD, 4K@60 signals that is sent from the NJR-T01UHD can be divided into four full HD signals and be displayed on sink devices.

When using the NJR-T04HD and the NJR-R01UHD together, four ports' full HD 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 IP-NINJAR series transmitters and receivers. It cannot be connected to OPF series units or FDX.

## ■ Specification

Item	NJR-T01UHD (Transmitter)		NJR-R01UHD (Receiver)	
	MM / SM	CAT	MM / SM	CAT
Input	1 input HDMI (*1) / DVI 1.0 TMDS single link HDCP 1.4 / 2.2 HDR (*2) EDID emulation Connector: Female HDMI Type A (19-pin) (*3)		1 input Digital signal for extension Connector: 2 LCs	1 input Digital signal for extension Connector: RJ-45
Output	1 output Digital signal for extension Connector: 2 LCs	1 output Digital signal for extension Connector: RJ-45	1 output HDMI (*1) / DVI 1.0 TMDS single link HDCP 1.4 / 2.2 HDR (*2) Connector: 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	Up to 8 multi-channel LPCM 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	Up to 8 multi-channel LPCM Sampling frequency: 32 kHz to 192 kHz Sample size: 16 bit to 24 bit Reference level: -20 dBFS Max. output level: 0 dBFS		Up to 8 multi-channel LPCM 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 input	1 input Stereo L/R balanced / unbalanced Input impedance: 48 kΩ balanced / 24 kΩ unbalanced Reference level: -10 dBu Max. input level: +10 dBu Connector: 5-pin terminal block		—	
Analog audio output	1 output Stereo L/R balanced / unbalanced Output impedance: 100 Ω balanced / 50 Ω unbalanced Reference level: -10 dBu Max. output level: +10 dBu Connector: 5-pin terminal block		1 output Stereo L/R balanced / unbalanced Output impedance: 100 Ω balanced / 50 Ω unbalanced Reference level: -10 dBu Max. output level: +10 dBu Connector: 5-pin terminal block	

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Item		NJR-T01UHD (Transmitter)		NJR-R01UHD (Receiver)	
Model		MM / SM	CAT	MM / SM	CAT
Cable for extension	Cable	Duplex fiber cable, SFP+ module	Cat6A STP cable	Duplex fiber cable, SFP+ module	Cat6A STP cable
	Polishing (*6)	SFP+ for Multimode: PC polishing (recommended) SFP+ for Singlemode: UPC polishing (recommended), SPC supported * APC is not supported	—	SFP+ for Multimode: PC polishing (recommended) SFP+ for Singlemode: UPC polishing (recommended), SPC supported * APC is not supported	—
	Maximum extension distance	Multimode fiber (OM3): 984 ft. (300 m) Singlemode fiber (OS1): 6.21 mi. (10 km) Singlemode fiber (OS1): 24.85 mi. (40 km, optional) (*7)	Cat6A STP: 328 ft. (100 m) (*8)	Multimode fiber (OM3): 984 ft. (300 m) Singlemode fiber (OS1): 6.21 mi. (10 km) Singlemode fiber (OS1): 24.85 mi. (40 km, optional) (*7)	Cat6A STP: 328 ft. (100 m) (*8)
Control	RS-232C	1 male D-sub (9 pin) connector, full duplex, up to 115.2 kbps			
	LAN	1 RJ-45 connector, 10Base-T / 100Base-TX / 1000Base-T (Auto Negotiation), Auto MDI / MDI-X			
General	AC adapter	Input: 100 - 240 VAC $\pm$ 10%, 50 Hz / 60 Hz $\pm$ 3 Hz Output: DC 12 V 3 A (A dedicated AC adapter is provided)			
	Power consumption	About 18 Watts	About 21 Watts	About 17 Watts	About 20 Watts
	Dimensions	8.3 (W) $\times$ 1.2 (H) $\times$ 5.5 (D)" (210 (W) $\times$ 30 (H) $\times$ 140 (D) mm) (EIA thin high, half rack wide) (Excluding connectors and the like)			
	Weight	2.2 lbs (1.0 kg)	2.2 lbs (1.0 kg)	2.2 lbs (1.0 kg)	2.2 lbs (1.0 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 16.4 ft. (5 m) or shorter HDMI cables.

\*4 Supported 4K formats: 24 Hz / 25 Hz / 30 Hz / 50 Hz (4:4:4) / 59.94 Hz (4:4:4) / 60 Hz (4:4:4)

\*5 Supported 4K format: only 24 bit

\*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, and the allowable bending radius is not exceeded.

\*8 The actual maximum extension distance may be shorter than the stated distance depending on the following conditions: quality and cabling of the Cat 6A cable, combination with 10 GbE switch, and installation status of the 10 GbE switch.

Video may be interrupted or may not be output even if signals are within the range of the maximum extension distance.

#### ■ SFP+

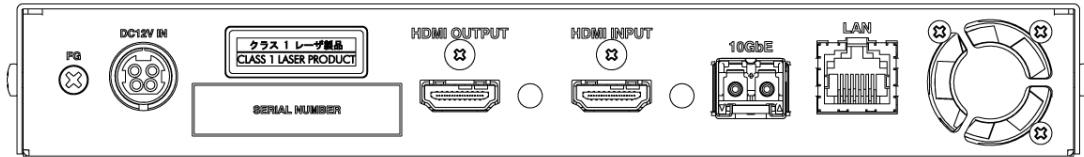
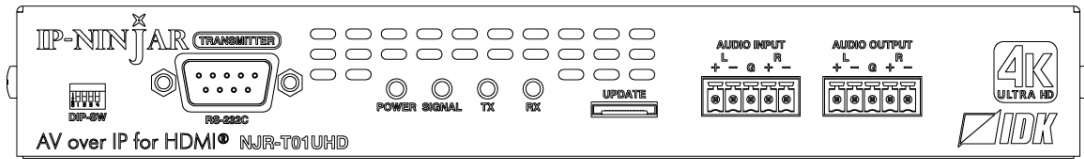
Item	10G-MM-SFP	10G-SM-SFP	10G-SM40-SFP (optional)
Fiber	Multimode fiber	Singlemode fiber	Singlemode fiber
Wave length	850 nm (VCSEL Laser*)	1310 nm (DFB laser*)	1550 nm (EML laser*)
Max. extension distance	OM3: 984 ft. (300 m)	OS1: 6.21 mi. (10 km)	OS1: 24.85 mi. (40 km)
Receiver sensitivity (OMA) @10.3Gbps	-11.1 dBm or higher	-12.6 dBm or higher	-16 dBm or 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)		

\* The lasers in these models meet class 1.

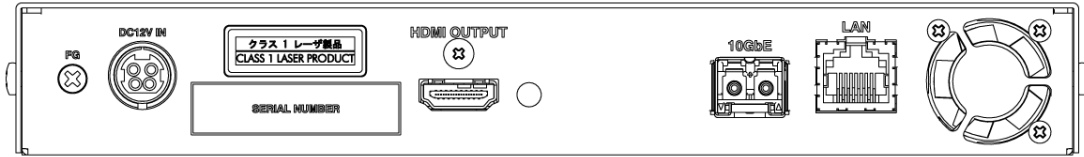
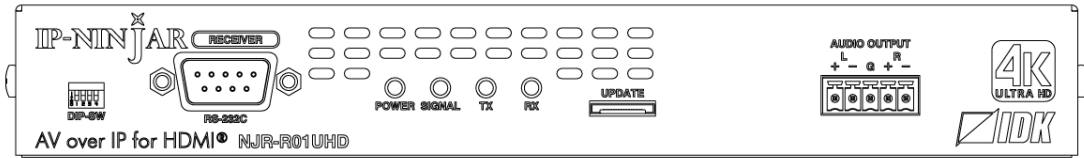
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■ Front and Rear Panels

NJR-T01UHD-MM  
 NJR-T01UHD-SM

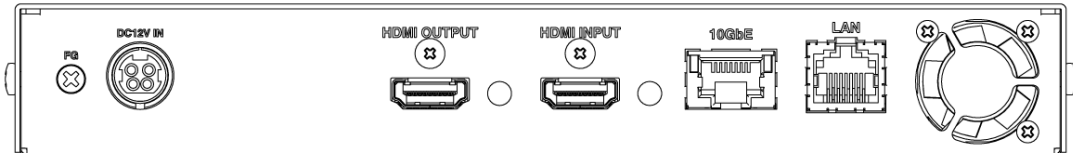
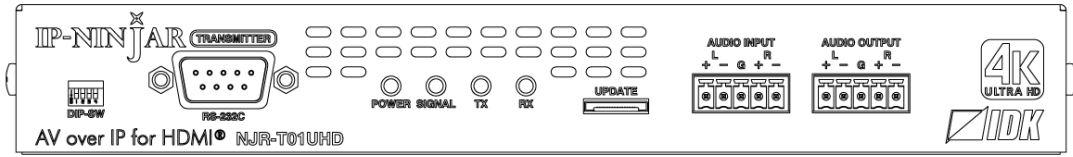


NJR-R01UHD-MM  
 NJR-R01UHD-SM

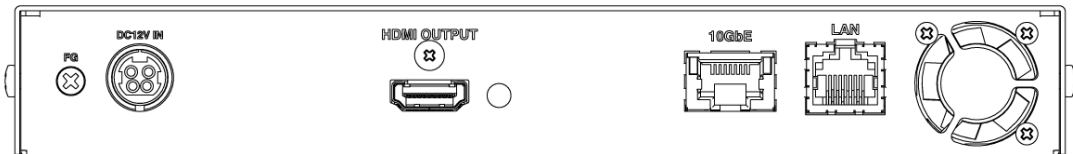
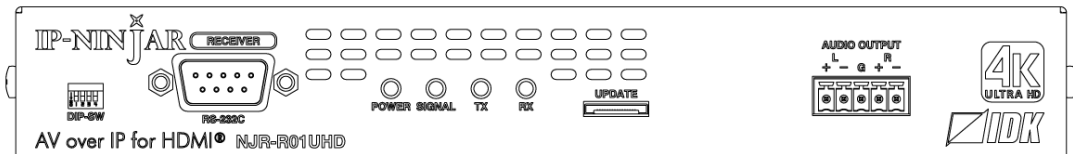


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NJR-T01UHD-CAT



NJR-R01UHD-CAT



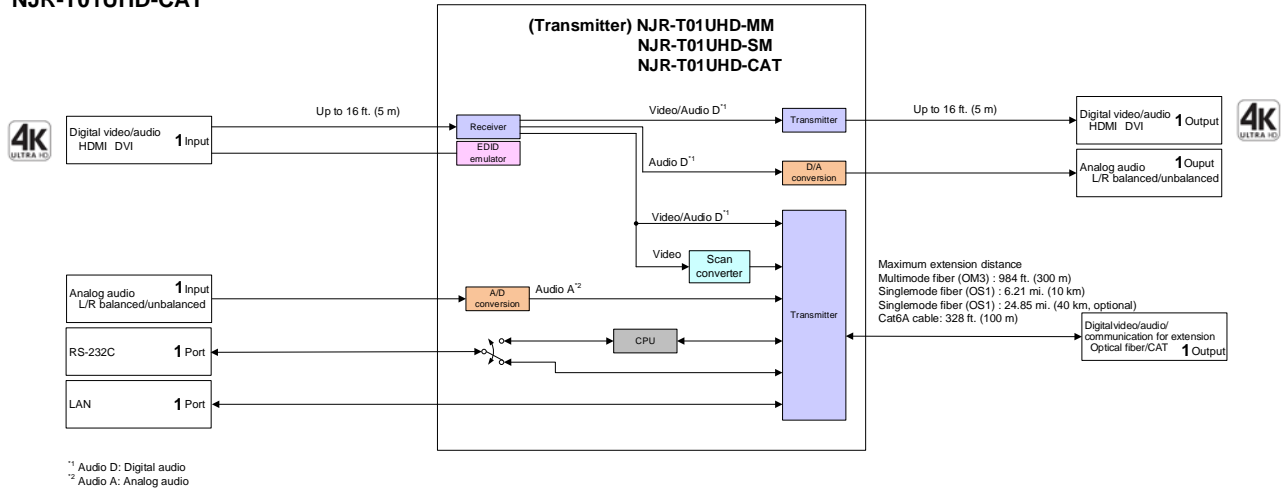
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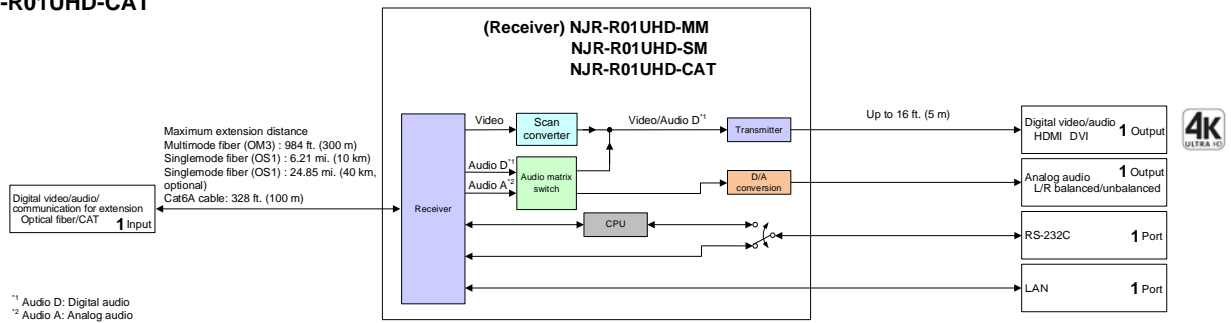
# 4K@60 and HDCP2.2 supported HDMI Network Extender NJR-01UHD Diagram and Features

■ Diagram

**NJR-T01UHD-MM  
NJR-T01UHD-SM  
NJR-T01UHD-CAT**



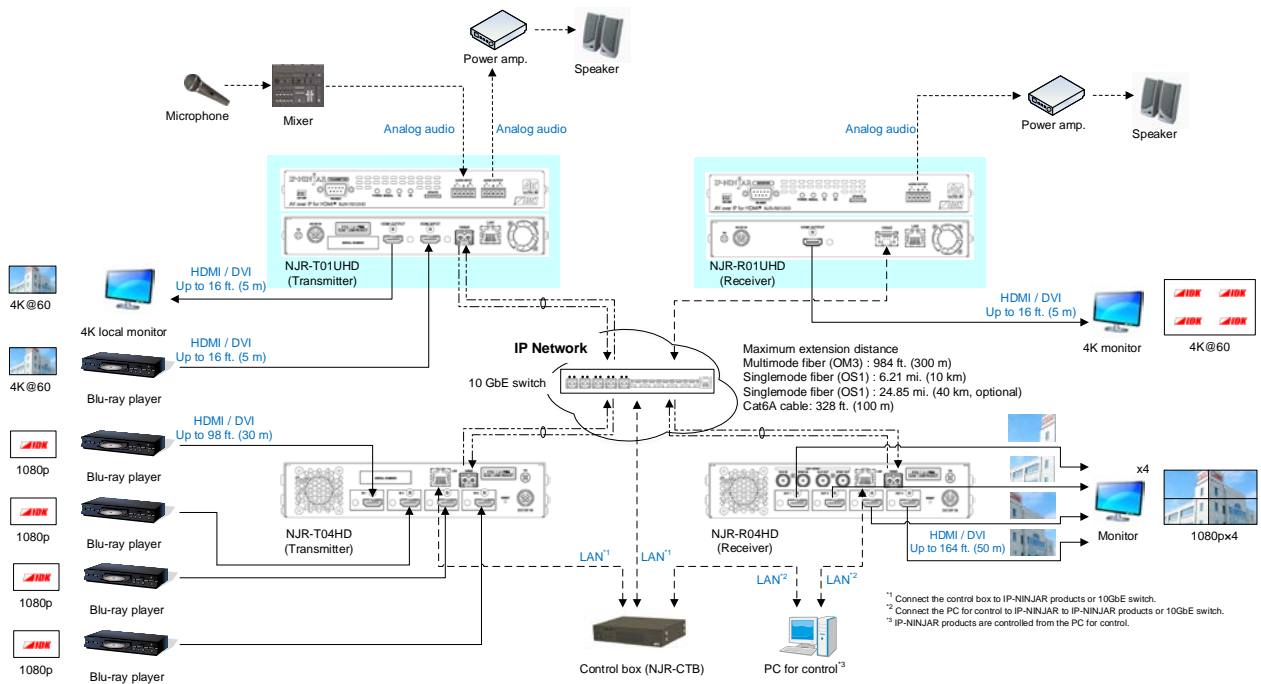
**NJR-R01UHD-MM  
NJR-R01UHD-SM  
NJR-R01UHD-CAT**



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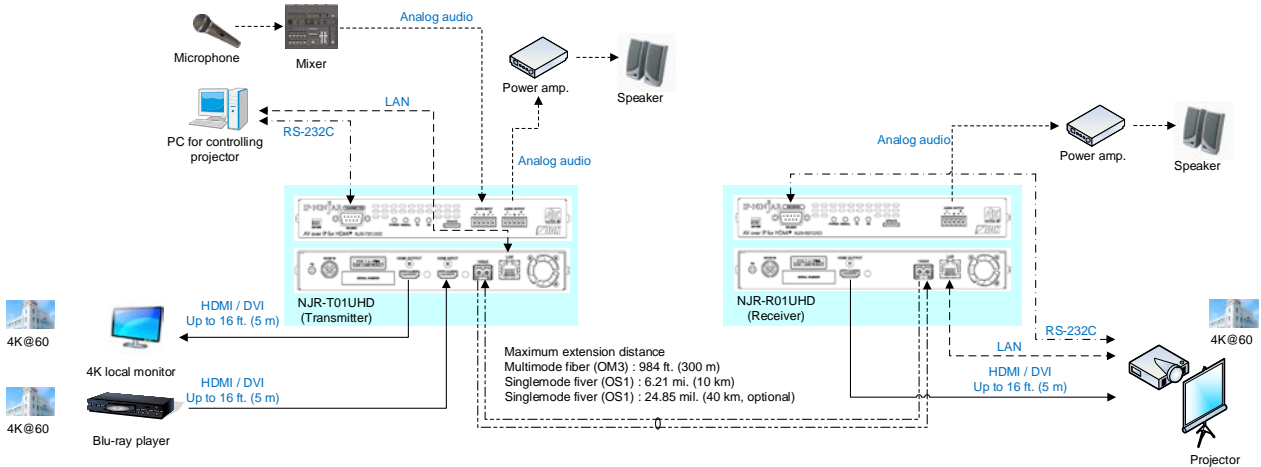
■ Application examples

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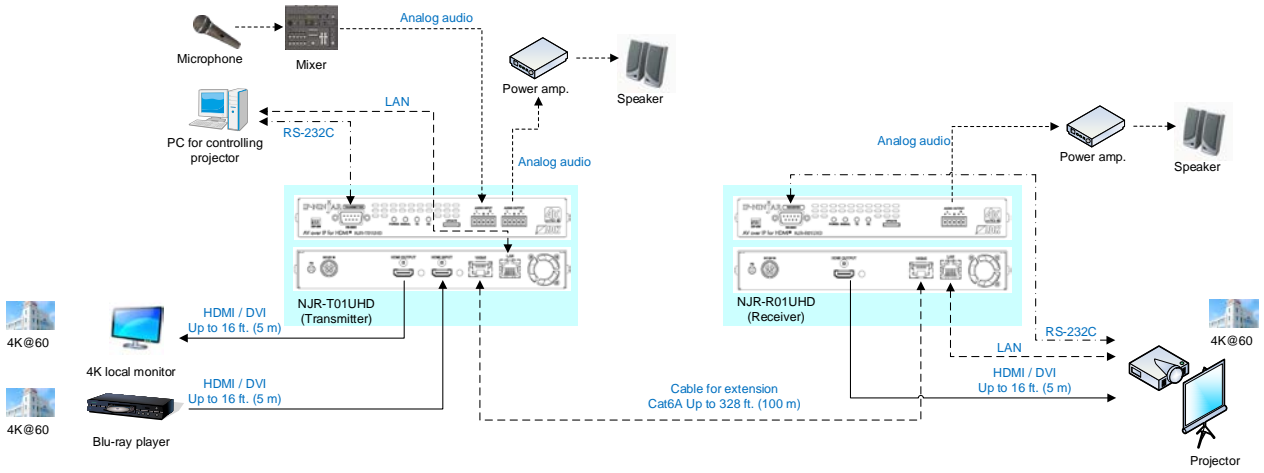
<Used as extender>

- NJR-T01UHD-MM
- NJR-T01UHD-SM
- NJR-R01UHD-MM
- NJR-R01UHD-SM



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**NJR-T01UHD-CAT**  
**NJR-R01UHD-CAT**



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## ■ Models

Multimode fiber	NJR-T01UHD-MM (Transmitter) NJR-R01UHD-MM (Receiver)
Singlemode fiber	NJR-T01UHD-SM (Transmitter) NJR-R01UHD-SM (Receiver)
Cat6A	NJR-T01UHD-CAT (Transmitter) NJR-R01UHD-CAT (Receiver)

## [Features]

### ■ Video

- Up to 4K@60 (4:4:4)
- HDCP 1.4 / 2.2
- HDR
- Local monitor output
- Maximum extension distances
  - Fiber optic cable (NJR-T01UHD-MM / SM, NJR-R01UHD-MM / SM)
  - Multimode fiber (OM3): 984 ft. (300 m)
  - Singlemode fiber (OS1): 6.21 mi. (10 km)
  - Singlemode fiber (OS1): 24.85 mi. (40 km, optional)
  - Twisted pair cable (NJR-T01UHD-CAT, NJR-R01UHD-CAT)
  - Cat6A: 328 ft. (100 m)

### ■ Audio

- Embedding (TX) / De-embedding

### ■ Communication

- RS-232C bidirectional communication
- LAN transmission

### ■ Network

- Matrix switching, Videowall, Multiview, distribution, and extension via 10GbE switch
- All transmitters and receivers in network can be set and controlled by NJR-CTB.
- Easy expanding and replacing IP NINJAR transmitters and receivers

### ■ Others

- EDID emulation
- DDC buffer
- Connection Reset
- AC adapter with locking mechanism