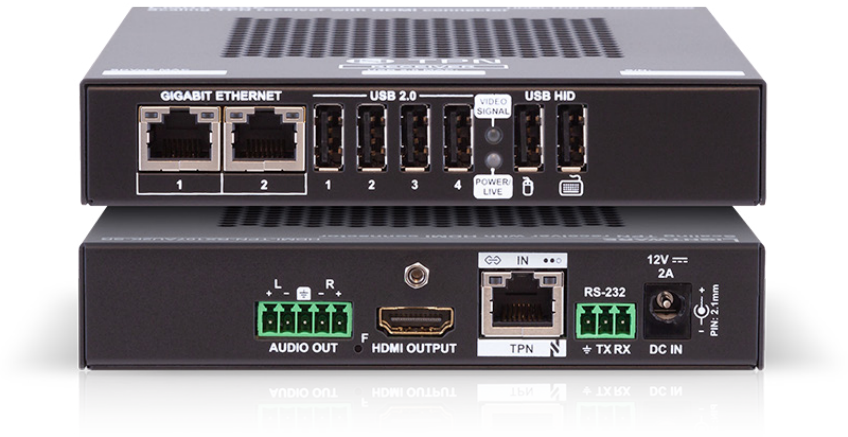
SDVoE compatible HDMI 2.0 scaling receiver

The HDMI-TPN-RX107AU2K-SR scaling receiver device is based on SDVoE technology. When installed in a networked environment with corresponding TPN transmitters or SDVoE- compatible third-party TX units, the HDMI-TPN-RX107AU2K-SR allows users to receive HDMI 2.0 compliant video, audio and control signals from compatible transmitters through 10G Ethernet networks. Moreover, this USB2.0 capable extender also allows transparent and composite USB2.0 transmission in the opposite direction.



Details

The HDMI-TPN-RX107AU2K-SR scaling receiver is based on the SDVoE technology and allows users to receive HDMI 2.0 compliant video, audio and control signals through 10G Ethernet networks. Depending on the HDCP settings and the resolution of the various sources, the receiver can support seamless and fast switching between those sources by rescaling the video either to the resolution described by the EDID of the connected display, or to a custom resolution.

Beyond the benefits of receiving, rescaling, and seamlessly swithching high-resolution video, the HDMI-TPN-RX107AU2K-SR can also handle various connectivity standards, including an 1G user Ethernet channel over the 10G link, as well as command injection into RS-232.

Moroever, the HDMI-TPN-RX107AU2K-SR allows for composite and transparent USB2.0 transmission when connected either to a HDMI-TPN-TX207AU2K transmitter or to a USB20-1GBE-HS10 extender.

Composite USB2.0 transmission adds the ability to connect USB-HID devices to a host computer through the extender pair without re-enumeration on the host side. Besides this being a convenient and instantaneous way of switching keyboard and mouse control between multiple hosts, it is going to allow for added-value features like mouse roaming and hotkey detection in the future.

Transparent USB2.0, on the other hand, provides support for various types of USB2.0 devices like webcams, microphones, touch displays just to name a few.

When connected with Lightware's TPX family of products using a direct Ethernet connection, the HDMI-TPN-RX107AU2K-SR endpoint falls back to TPX mode to maintain transmission compatibility.

Features

- **Plug&Play compatible with Lightware TPX devices**
- **Transparent USB transmission (for various USB2.0 devices including cameras, microphones, and touch screens) and composite USB transmission (for USB-HID devices) when connected to USB2.0 comlpiant extenders (e.g. HDMI-TPN-TX207AU2K or USB20-1GBE-HS10**
- **By utilising rescaling, provides fast and seamless switching (with appropriate HDCP and signal format settings)**
- **Allows for the reception of HDMI 2.0, embedded audio, Ethernet, and RS-232 from compatible TPN transmitters through a 10G Ethernet switch**
- **HDR and Low Latency Dolby Vision support when no scaling is applied**
- **Supports rescaling either to the EDID of the connected display, or to custom resolutions**
- **Can be remote powered through CATx cable (PoE PD)**
- **Supports HDMI 4K signal formats (4K UHD @60Hz RGB 4:4:4, up to 18 Gbps)**
- HDCP 2.3 compliant
- Compatible with third-party SDVoE devices and controllers
- Ethernet extension (1 Gbps)
- Command injection on RS-232

Specifications

General	Compliance	UL, CE
	Electrical safety	IEC/EN/UL/CSA 62368-1:2014, Class II
	EMC (emission)	IEC/EN 55032:2015
	EMC (immunity)	IEC/EN 55035:2017
	RoHS	EN 63000:2018
	Warranty	3 years
	Operating temperature	0° to +50°C (+32° to +122°F)
	Storage temperature	-30° to +80 ° C (-22° to +176 ° F)
	Operating humidity	10% to 90%, non-condensing
	Cooling	passive
Power	Power supply option	Power adaptor / PoE
	Power consumption (max)	TBD
	Heat dissipation	TBD
	Power over Ethernet (PoE)	via TPX input (IEEE802.3af) (can receive power)
	Supported power source	100-240 V AC; 50/60 Hz
	Supplied power	12V DC, 2A
	AC power plug	Interchangable (EU, UK, JP/US, AUS/NZ)
	DC power plug	Locking DC connector (2.1/5.5 mm pin)

Specifications

Enclosure	Rack mountable	No
	Enclosure material	1 mm steel
	Dimensions in mm	138 W x 151.8 D x 26 H
	Dimensions in inch	5.43 W x 5.98 D x 1.02 H
	Weight	TBD kg
Video inputs	TPX Input	
	Connector type	RJ45 connector
	Power over Ethernet (PoE)	IEEE 802.3af (PD)
	Compliance	SDVoE (point-to-point)
	HDCP compliance	HDCP2.3
	Transferred signals	Video, Audio, RS-232, Infrared, Ethernet
	Color space	RGB, YCbCr
	Video delay	0 frame
	Supported resolutions at 8 bits/color *	up to 4096x2048@60Hz (4:4:4)
		up to 3840x2160@60Hz (4:4:4)
		4096x2048@60Hz (4:2:2) up to 10 bits/color
	Audio formats	All HDMI 2.0 formats including multi-channel PCM, Dolby True-HD and DTS-HD master audio
* The horizontal resolution for signals above the bandwith limit of HDMI 1.4 cannot exceed 4096 pixels.		
Video Outputs	HDMI Output	
	Connector type	19-pole HDMI Type A receptacle
	A/V standard	DVI 1.0, HDMI 1.4, HDMI 2.0
	HDCP compliance	HDCP 2.3
	Color space	RGB, YCbCr
	Supported resolutions at 8 bits/color *	up to 4096x2048@60Hz (4:4:4)
		up to 3840x2160@60Hz (4:4:4)
		4096x2048@60Hz (4:2:2) up to 10 bits/color
	Audio formats	All HDMI 2.0 formats including multi-channel PCM, Dolby True-HD and DTS-HD master audio
	Scaling	Scaling to EDID preferred resoltion or custom resolution with the following limitations: * When scaling is used, the scaler output is always RGB 8 bit/component. * A picture with resolution of 3840 x 2160 cannot be scaled down to 640 x 480, 800 x 600, 960 x 1280, 1024 x 768, 1050 x 1400, or 1200 x 1600 when the aspect ratio is kept by utilizing letterbox. * A picture with resolution of 4096 x 2160 cannot be scaled down to 640 x 480, 800 x 600, 960 x 1280, 1024 x 768, 1050 x 1400, 1200 x 1600, 1280 x 768, 1680 x 1050, or 1900x1200 when the aspect ratio is kept by utilizing letterbox.
* All standard VESA and CEA resolutions up to 600MHz (HDMI2.0) and other custom resolutions up to 600Mhz are supported.		

Specifications

Audio Ports	Analog Audio Output	
	Connector type	5-pole Phoenix connector
	Audio formats	2-ch PCM
	Sampling frequency	48 kHz
	Volume	-78 dB - 0 dB
	Balance	0 - 100 (50 = center)
	Nominal Differential Output Level @ 0 dB Gain	+4 dBu
	Nominal Differential Output Level @ 3 dB Gain	+7 dBu
USB port	Connector type	2x USB-A female (device, composite mode)
	USB compliance	USB2.0
	Device class	HID
	Powering	Max 0.325A@5V (total)
	USB port	
	Connector type	4x USB-A female (device, transparent mode)
	USB compliance	USB2.0
	Device class	Audio, Video, Mass Storage, HID, HUB, Smart Card, Vendor specific
	Powering	Max 1.08A@5V (per port), Max 1.75A@5V (total)
Control Ports	RS-232 serial port	
	Connector type	3-pole Phoenix connector
	Baud rates	Between 4800 and 115200 Baud
	Data bits	8 or 9
	Parity	None / Odd / Even
	Stop bits	1 / 1.5 / 2
	Ethernet port	
	Connector type	RJ45 female connector (2)
	Ethernet data rate	10/100/1000Base-T, full duplex with autodetect
	Power over Ethernet (PoE)	No