



SY-HDX80-4K

User Manual

80m 4K HDMI Extender over Cat6

4K30, 1080p60, 1920x1200p60

Supports all HDMI video resolutions up to 4K30 4:4:4
with bi-directional IR

Thank you for purchasing the SY-HDX80-4K Set

The SY-HDX80-4K set is designed with the professional AV installers in mind. This cost-effective 4K extender from our Essential range, is easy to install. Simply fit and forget.

Installation precautions

This SY-HDX80-4K set has special circuitry to protect it against moderate surges and static discharges. However, to ensure reliable operation and long service life, it is important to take the necessary precautions against any spikes, surges and static discharges.

Place the units away from heat sources and allow adequate ventilation.

Shielded cable and in particular cat6, cat6a or cat7 is highly recommended. As much as possible cables should be routed away from any noisy sources and avoid long runs in close proximity to AC mains cables.



The terms HDMI, HDMI High-Definition Multimedia Interface, HDMI trade dress and the HDMI Logos are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

This 4K30 HDMI 1.4b Extender from our Essential range, can extend an HDMI high-definition signal up to 80m over CAT6/6a cable, achieving zero-delay, uncompressed long-distance transmission between the signal source and display devices. The low power consumption ensures long term system stability and reliability.

All video resolutions from 480i@60 to 4K@30 are supported, as well as 4:4:4, 4:2:2, 4:2:0 and 3D formats, together with audio format up to LPCM/Dolby/DTS 5.1CH.

PoC (Power over Cable) function and EDID copy pass-through between the signal source and display devices are also supported.

This cost effective and easy to install product is suitable to be used in educational, corporate, commercial, hospitality, digital signage and many more application. Simply Fit & Forget.

Features

- Video resolutions up to 4K30, including 1080p60 and 1920x1200p60
- Transmission distance up to 80m (262ft) over Cat5e/Cat6/Cat6a cable
- Compliant to HDCP 1.4
- 10.2Gbps video bandwidth
- TMDS re-clocking (re-timing)
- Bi-directional IR passthrough
- Supports LPCM 2.0, Dolby 5.1, Dolby Digital+ 7.1, DTS 5.1 audio formats
- EDID copy passthrough
- Bi-directional PoC (can be powered from Transmitter or Receiver)

Packing List

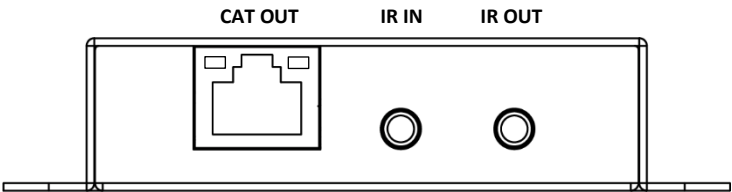
- 1x SY-HDX80-4K-T – Transmitter unit
- 1x SY-HDX80-4K-R – Receiver unit
- 1x IR emitter (1.5m cable)
- 1x IR wideband receiver (1.5m cable)
- 1x User Manual
- 1x 12V/1A multinational locking power supply

Connectors and Controls

In the following diagrams, the connectors are referenced from left to right.

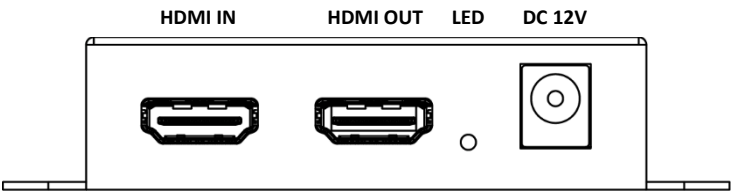
Transmitter

Front



Name	Description
CAT OUT	RJ45 connection for Cat6 cable to the receiver
RJ45 Green LED	Lit solid – HDMI input signal is detected
RJ45 Yellow LED	Fast Flash – Tx & Rx units are connected, and signal transmitted Slow Flash – Tx & Rx units are connected, but no signal transmitted
IR IN	3.5mm TRS jack connector for IR Detector
IR OUT	3.5mm TRS jack connector for IR Emitter

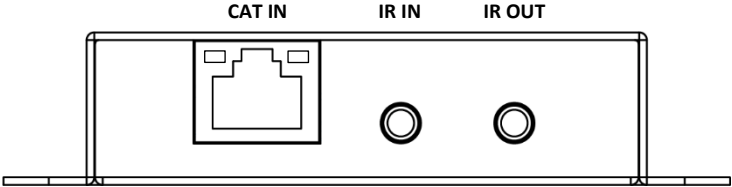
Rear



Name	Description
HDMI IN	HDMI (19 pin, Type A) input from HDMI source device
HDMI OUT	HDMI (19 pin, Type A) output to local display device
LED	Lit when the unit is powered
Power In	Power input for 12V DC PSU

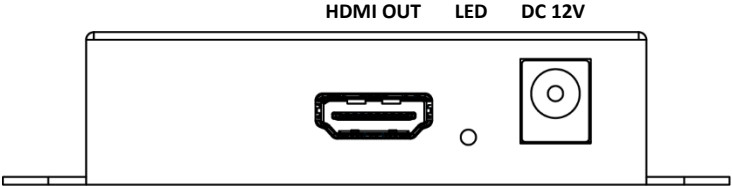
Receiver

Front



Name	Description
CAT IN	RJ45 connection for Cat6 cable to the receiver
RJ45 Green LED	Lit solid – Display HDMI is detected
RJ45 Yellow LED	Fast Flash – Tx & Rx units are connected, and signal transmitted Slow Flash – Tx & Rx units are connected, but no signal transmitted
IR IN	3.5mm TRS jack connector for IR Detector
IR OUT	3.5mm TRS jack connector for IR Emitter

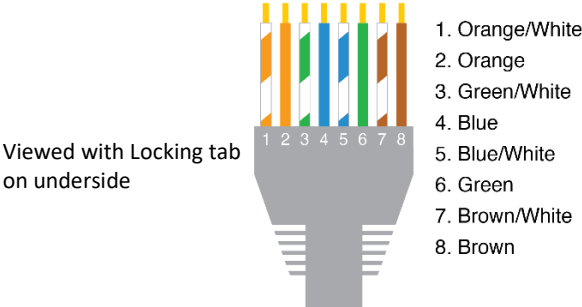
Rear



Name	Description
HDMI OUT	HDMI (19 pin, Type A) output to local display device
LED	Lit when the unit is powered
DC 12V	Power input for 12V DC PSU

RJ45 Connector Wiring

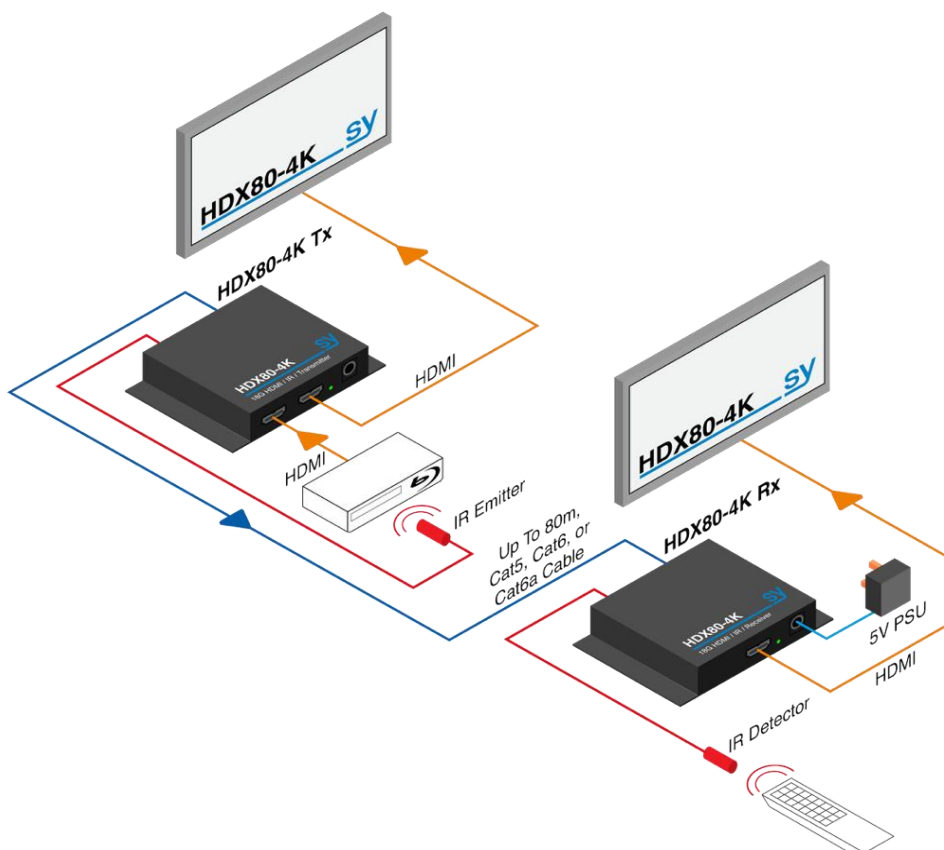
The HDX80-4K set uses RJ45 TP connectors using the T568B wiring scheme as shown below. Do not use crossover connections.



Using this Product

- Connect a HDMI source to the HDMI IN of the transmitter.
- Connect a HDMI display to the HDMI OUT of the transmitter, if required.
- Connect a HDMI display to the HDMI OUT of the receiver.
- Connect the Transmitter and Receiver units together using Cat5e, Cat6, or Cat6a cable.
- If needed, connect the IR receiver and emitter to the appropriate IR connectors.
- Connect the 12V 1A power supply to either the transmitter or the receiver. The corresponding unit will be powered via the Cat5e/Ca6/Cat6a cable.

Connection Example



Specifications

General

HDMI Resolutions	All HDMI resolutions to 4K30 4:4:4 (as per below examples)				
	4096x2160p 24/25/30	1680x1050p 60	1280x800p 60	720p 50/60	
	3840x2160p 24/25/30	1440x900p 60	1280x768p 60	640x480p 60	
	1080p 24/25/30/50/60	1360x768p 60	1024x768p 60	576p 50	
	1920x1200p 60RB	1280x1024p 60	1080i 50/60	480p 60	
HDMI Standard	HDMI 1.4b				
Video Bandwidth	10.2Gbps				
HDCP Compliance	HDCP 1.4				
Colour Space	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2				
Colour Depth	8/10/12 bits				
Audio Formats	LPCM 2.0, Dolby 5.1, Dolby Digital+ 7.1, DTS 5.1				
IR Level	5V				
IR Frequency	Wideband 20kHz ~ 60kHz				
Transmission Distance	80m (262ft) for 4K30 via cat6/cat6a cable				
Power Supply	12V 1A DC				
Power Consumption	3.2W				

Environmental

Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Operating Humidity	20% ~ 80% RH, non-condensing
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Storage Humidity	10% ~ 90% RH, non-condensing

Physical

Dimensions (WxHxD)	74 x 20 x 68 mm	Transmitter and Receiver including mounting brackets
	97 x 20 x 68 mm	
Weight	Transmitter:	164g
	Receiver:	160g

Safety Instructions

To ensure reliable operation of this product as well as protecting the safety of any person using or handling these devices while powered, please observe the following instructions.

1. **ONLY USE** the power supply provided. If an alternate supply is required, check the voltage, polarity and that it has sufficient power to supply the device it is connected to.
2. **DO NOT** use this product outside the specified temperature and humidity ranges given in the above specifications.
3. Ensure there is adequate ventilation as this product generates heat while operating.
4. Repair of this product should only be carried out by qualified professionals as this product contains sensitive devices that may be damaged by any mistreatment.
5. Only use this product indoors and in a dry environment. **DO NOT** allow any liquids or harmful chemicals to come into contact with this product.

After Sales Service

1. Should you experience any problems while using this product, firstly refer to your local dealer before contacting SY Technical Support.
2. When calling SY Technical Support, please provide the following information:
 - Full Product Name and Model Number
 - Product Serial Number
 - Details of the fault and any conditions under which the fault occurs.
3. The warranty details for this product is available in our website under our Terms and Conditions. Please refer to this document for details.
4. The SY Product warranty is automatically void under any of the following conditions:
 - The product is already outside of its warranty period
 - Damage to the product due to incorrect usage or storage
 - Damage caused by unauthorised repairs
 - Damage caused by mistreatment of the product
5. Please direct any questions or problems you may have to your local dealer before contacting SY Electronics.