

Labgear

HDX60P

HDMI 60m Extender Kit with POE over single CAT 5e/6/7

User Guide



HDMI[®]
HIGH-DEFINITION MULTIMEDIA INTERFACE



General Safety

- To prevent fire or shock hazard, do not expose any part of this device to rain or moisture.
- This product is for indoor use only
- Do not expose the product to extreme heat
- Do not disassemble any of the units in this kit they contain no user serviceable parts. Refer servicing to qualified personnel only.
- This device should be operated using only the AC/DC adaptor supplied with it.
- Do not overload wall outlets and extension cords as this can result in the risk of fire or electrical shock.

Introduction

The HDMI Extender extends high definition video and audio signals and IR, over a distance of up to 60m over a single CAT 5e/6/7 cable. It features EDID management, which allows and encourages source and display “handshake” for seamless integration. With only one cost effective CAT 5e/6/7 cable, high definition sources with HDMI outputs can be connected to high definition displays with HDMI inputs over long distances. Deep colour video, DTS-HD or Dolby TrueHD audio are supported and compatible with the extender. In addition, the extender is also equipped with bi-directional IR pass-through which allows for source or display control.

The extender comprises two units: a transmitter and receiver. The transmitter is used to capture the HDMI input with IR signals and sends the signals over a single Cat 5e/6/7 Ethernet cable. The receiver equalizes the transmitted HDMI signal and either reconstructs any IR control signals sent or sends IR control signals back to the source via the Transmitter.

Features

- Allows HDMI Audio/Video and IR signals to be transmitted over a single CAT 5e/6/7 cable.
- Supports copy EDID from receiver display or loop out display.
- Allows for cascading via an additional HDMI loop out port.
- Supports ‘Power Over Ethernet’ function.
- Transmission Range: Extends 1080p resolution up to 60m over a single CAT 5e/6/7 cable.
- Works with HDMI and HDCP compliant devices.
- Supports up to 1080p High Definition resolution.
- Compact design for an easy and flexible installation.

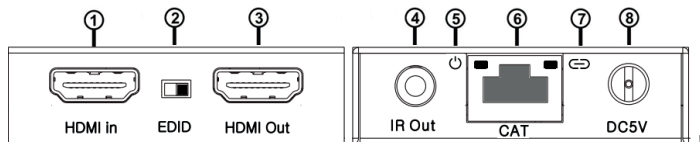
Specifications

Video Bandwidth:	Single-link 165MHz (4.95Gbps)
Video Support:	480i/480p/720p/1080i/1080p @ 60Hz
Audio Support:	Surround Sound (up to 7.1 ch) or stereo digital audio
Transmission Range:	HD (1080p 24bit color) - up to 60m
Input TMDS Signal:	3.3V
Input DDC Signal:	5.0 V/P-P
ESD Protection:	+/- 8 kV (air-gap discharge) +/- 4 kV (contact discharge)
HDMI Connector:	Type A 19 pin female
RJ45 Connector:	WE/SS 8P8C
3.5mm Connector:	(TX and RX) IR Receiver/IR Blaster
Housing:	Metal enclosure
Power Supply:	1x 5V \Rightarrow 1A
Power Consumption:	1.5 watts (TX); 1.0 watts (RX)
Operating Temperature:	0~40°C
Storage Temperature:	-20~60°C
Relative Humidity:	20~90% RH (no condensation)

Extender Kit Contents

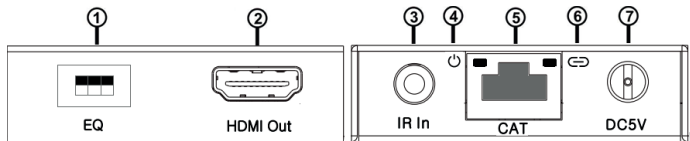
- 1x HDMI Transmitter
- 1x HDMI Receiver
- 1x Wideband IR Blaster and Cable
- 1x Wideband IR Receiver and Cable
- 1x 5V \Rightarrow 1A DC Power Supply Adaptor
- 1x Product Manual

Transmitter - Sockets and Switches



- ① **HDMI IN:** Via an HDMI cable connects to the HDMI output port of your source equipment such as DVD/Blu-ray players or set top box.
- ② **EDID SWITCH:** Switched to the right, the extender will copy the EDID information for the display connected to the HDMI loop out to the source equipment. Switched to the left, the extender will copy the EDID information of the display connected to the Receiver to the source.
- ③ **HDMI OUT:** Via an HDMI cable connects to the HDMI input of a local display such as an HDTV.
- ④ **IR OUT:** Connection for the IR Blaster cable included in the pack for IR signal transmission. Place the IR Blaster in direct line-of-sight of the equipment to be controlled. Use the sticky pad to attach to a suitable surface.
- ⑤ **POWER LED:** Indicates when the device is connected to a power supply.
- ⑥ **CAT:** Via CAT 5e/6/7 Ethernet cable connects the transmitter with the CAT input of the receiver.
- ⑦ **LINK LED:** Indicates when the device is connected to an HDMI source.
- ⑧ **DC 5V:** Connection for 5V DC power adaptor which is plugged into a mains socket.

Receiver - Sockets and Switches

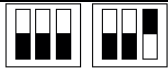
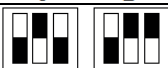




- ① EQ SWITCH: HDMI Receiver equaliser switch.
- ② HDMI OUT: Via an HDMI cable connects to the HDMI input of a display such as an HDTV.
- ③ IR IN: Connection for the IR Receiver cable included in the pack for IR signal reception. Place the IR Receiver in a position in direct line-of-sight of the remote control. Use the sticky pad supplied to attach to a suitable surface.
- ④ POWER LED: Indicates that the receiver is receiving power over the Ethernet cable
- ⑤ CAT: CAT: Via CAT 5e/6/7 Ethernet cable connects the receiver with the CAT output of the transmitter.
- ⑥ LINK LED: Indicates when the HDMI signal from the transmitter is stable.

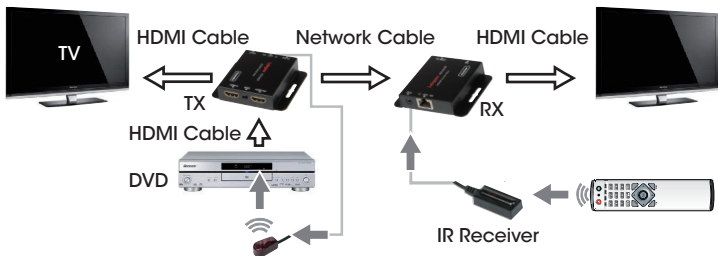
Receiver Equaliser Distance Adjustment

If the image on the display is flickering or flashing, adjust the EQ switch to improve the cable skew.

MAX (7) sets the strongest HDMI signal level for the longest possible transmission length while MIN (0) sets the weakest HDMI signal level for the shortest transmission length. Adjust the signal level from 0-7 to achieve optimum video quality.

Recommended Equaliser Settings	
Switch Positions	Cable Length
 0 1	Under 15m
 2 3	15-30m
 4 5	30-40m
 6 7	40-50m

Connection and Operation



1. Connect a source such as a Blu-Ray Player, game console, A/V Receiver, Cable or Satellite Receiver, etc. to the HDMI input on the Transmitter.
2. Connect a display such as an HDTV or HD Projector to the HDMI output on the Receiver.
3. Connect a single CAT 5e/6/7 up to 60m long to the CAT output of the Transmitter and the other end to the CAT input of the Receiver.
4. Plug the power supply into the Transmitter DC5V power socket and plug the power adaptor into a mains socket.
5. Switch on the source and display(s).

Troubleshooting

At this point any displays connected to the Transmitter and Receiver should display the signal from the source device connected to the Transmitter.

If no signal is being displayed, check the Receiver EQ switch setting is suitable for the cable length.

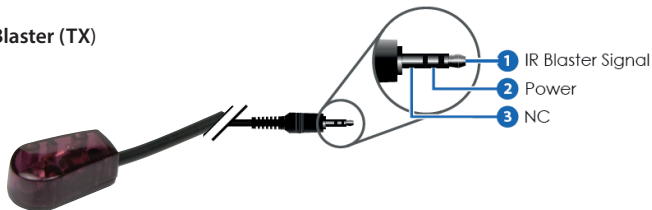
If a display is not receiving a good signal, use the EDID switch to copy the EDID information to the source (see the EDID section on page 4) or access the display's menu and adjust the resolution (lowest to highest until a good picture displayed). N.B. A 24Hz vertical refresh rate may work better than 60 Hz or higher.

Use the source remote pointed at the IR Receiver sensor to test IR functionality. If the IR remote function is not responding, check that the IR Blaster and Receiver are placed correctly and are plugged into the correct IR sockets on the Extender Receiver and Transmitter.

Wideband IR Blaster and Receiver

The HDX60P kit is supplied with a wideband IR Blaster and Receiver they respectively emit or receive IR signals in the 30-60kHz range.

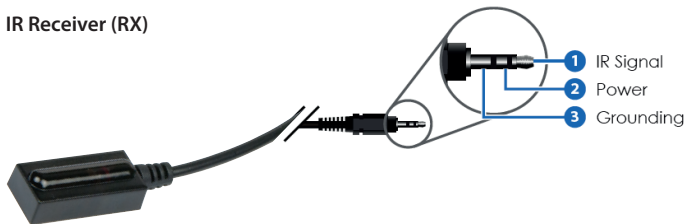
IR Blaster (TX)



To control the source: Plug the IR Blaster into the IR OUT socket on the transmitter, place the Blaster as close as possible in front of the IR sensor of the source device.

To control the display: Plug the IR Blaster into the IR IN port of the Receiver, place the Blaster as close as possible in front of the IR sensor of the display. When you are happy with the position of the IR Blaster you can fix it in position by peeling of the backing paper of the sticky pad on the base and sticking it in position.

IR Receiver (RX)



To control the source: Plug the IR Receiver into the IR IN port of the receiver unit and place the IR Receiver close to the display and where the source remote control is in line-of-sight.

To control the display: Plug the IR Receiver into the IR OUT socket of the transmitter and place the IR Receiver in a position where it is able to receive signals from the display remote control.

When you are happy with the position of the IR Receiver you can fix it in position sticking the sticky pad supplied to the base of the IR Receiver and fixing it in position.

Technical Support

For further information, please contact:

Customer Careline: 08457 573 479

Local rate: UK Only

www.labgear.co.uk



Waste electrical and electronic products must not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority for recycling advice.

