



4K60 HDMI Video Extender

HDMI 2.0b, Local Out, 2-Way IR, PoC, 70m



DSG-HDMI-460C

User Manual

VER 1.1



Thank You For Purchasing This Product

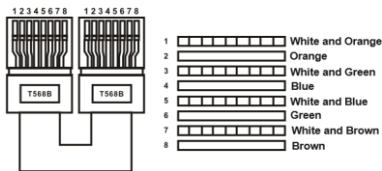
For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge Protection Device Recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lighting strikes, etc. Use of surge protection systems is highly recommended to protect and extend the life of your equipment.

Caution

The product requires the use of UTP connectors. Please connect using the direct interconnection method and do not cross connect.



Direct Interconnection Method



Table of Contents

1.	Introduction	4
2.	Features	4
3.	Package Contents	5
4.	Specifications	5
5.	Operation Controls and Functions	7
5.1	Transmitter Panel.....	7
5.2	Receiver Panel	8
5.3	IR Pin Definition.....	10
6.	Application Example	11



1. Introduction

This 18Gbps HDMI Video Extender can extend HDMI signals and IR control signal up to 70m (230 feet) via a single CAT6/6a cable, achieving zero-delay, uncompressed long-distance transmission between the Transmitter and Receiver. The video resolution supports up to 4K@60Hz. It features EDID copy pass-through functionality between the source device and display device, as well as PoC functionality. This Extender is ideal for use in multimedia conference halls, TV teaching, and large-screen displays.

2. Features

- ☆ HDMI 2.0b and HDCP 2.2 compliant
- ☆ Supports 18Gbps video bandwidth
- ☆ Supports video resolutions up to 4K@60Hz RGB/YCbCr 4:4:4
- ☆ Transmission distance can be extended up to 230ft / 70m via a single CAT6/6a cable
- ☆ Supports HDR, HDR10, HDR10+, Dolby Vision, HLG
- ☆ Supports bi-directional IR control signal pass-through
- ☆ Audio formats: LPCM 7.1, Dolby True HD, DTS HD Master
- ☆ EDID copy pass-through function between the source device and display device
- ☆ Supports ARC and audio de-embedding; audio output through the optical fiber port of the Receiver
- ☆ Supports bi-directional PoC (Power over Cable) functionality
- ☆ Compact design for easy and flexible installation

3. Package Contents

- ① 1 x 18Gbps HDMI Extender (Transmitter)
- ② 1 x 18Gbps HDMI Extender (Receiver)
- ③ 1 x IR Blaster cable (1.5 meters)
- ④ 1 x IR Wideband Receiver cable (1.5 meters)
- ⑤ 4 x Mounting Ears
- ⑥ 8 x Machine Screws (KM3*4)
- ⑦ 1 x 12V/1A Locking Power Adapter
- ⑧ 1 x User Manual

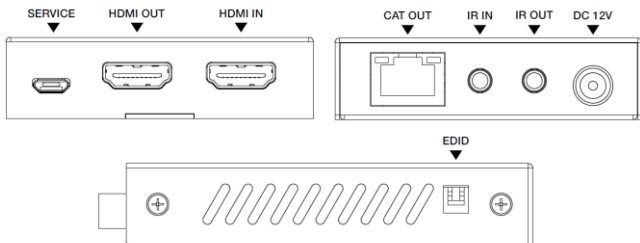
4. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Up to 4K@60Hz RGB/YCbCr 4:4:4
IR Level	5Vp-p
IR Frequency	Wideband 20K-60KHz
Transmission Distance	4K@60Hz 4:4:4 – 70m, 1080P – 70m (CAT6/6a cable)
Color Space	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8/10/12bit
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Formats	HDMI: LPCM 7.1 CH, Dolby True HD, DTS-HD Master Optical: Dolby 5.1, DTS 5.1, PCM 2.0
ESD Protection	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)

Connections	
Transmitter	Input: 1 × HDMI IN [Type A, 19-pin female] Output: 1 × HDMI OUT [Type A, 19-pin female] Control: 1 × SERVICE [Micro-USB jack] 1 × IR IN [3.5mm Stereo Mini-jack] 1 × IR OUT [3.5mm Stereo Mini-jack] Network: 1 × CAT OUT [RJ-45]
Receiver	Output: 1 × HDMI OUT [Type A, 19-pin female] 1 × TOSLINK Control: 1 × SERVICE [Micro-USB jack] 1 × IR IN [3.5mm Stereo Mini-jack] 1 × IR OUT [3.5mm Stereo Mini-jack] Network: 1 × CAT IN [RJ-45]
Mechanical & Environmental	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 90mm (W) × 68mm (D) × 18mm (H)
Weight	Transmitter: 160g, Receiver: 155g
Power Supply	DC 12V/1A Supports bi-directional PoC functionality
Power Consumption	3.36 W (max)
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20 ~ 90% RH (non-condensing)

5. Operation Controls and Functions

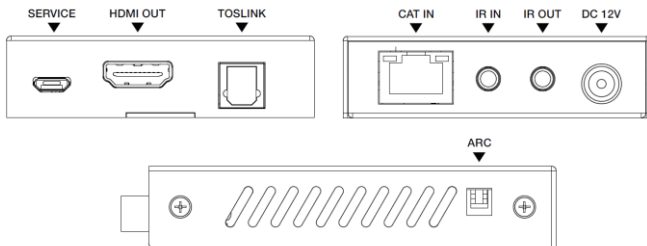
5.1 Transmitter Panel



No	Label	Function Description
1	SERVICE	Firmware update port.
2	HDMI OUT	HDMI signal loop output port. Connects to HDMI display device with HDMI cable.
3	HDMI IN	HDMI signal input port. Connects to HDMI source device with HDMI cable.
4	CAT OUT	RJ-45 connector for connecting the CAT IN port of the Receiver with CAT6/6a cable.
5	Link Signal Indicator (Green)	<p>illuminating: Transmitter and Receiver are in good connection status.</p> <p>Flashing: Transmitter and Receiver are in poor connection status.</p> <p>Dark: Transmitter and Receiver are not connected.</p>
6	Data Signal Indicator (Orange)	<p>illuminating: HDMI signal with HDCP.</p> <p>Flashing: HDMI signal without HDCP.</p> <p>Dark: No HDMI signal.</p>
7	IR IN	Connects to IR Receiver cable, the IR received signal will emit to the IR OUT port of the Receiver.
8	IR OUT	Connects to IR Blaster cable, the IR emit signal is from the IR IN port of the Receiver.

9	DC 12V	DC 12V/1A power input port. Note that the extender supports PoC functionality. Either the Transmitter or Receiver needs to connect to the 12V/1A power supply, the other does not need power supply.
10	EDID DIP switch	Use the DIP switch to set EDID. (Switching to the upper end indicates 1; switching to the lower end indicates 0.) 11 - EDID information is copied from the display at the RX. 10 - EDID is preset to 4K@60Hz Stereo 01 - EDID is preset to 1080p Stereo 00 - EDID information is copied from the HDMI OUT at the TX.

5.2 Receiver Panel



No	Label	Function Description
1	SERVICE	Firmware update port.
2	HDMI OUT	HDMI signal output port. Connects to HDMI display device with HDMI cable.
3	TOSLINK	Optical fiber audio output port. Connects to audio amplifier with optical cable.
4	CAT IN	RJ-45 connector for connecting the CAT OUT port of the Transmitter with CAT6/6a cable.
5	Link Signal Indicator (Green)	Illuminating: Transmitter and Receiver are in good connection status. Flashing: Transmitter and Receiver are in poor connection status.

		Dark: Transmitter and Receiver are not connected.
6	Data Signal Indicator (Orange)	Illuminating: HDMI signal with HDCP. Flashing: HDMI signal without HDCP. Dark: No HDMI signal.
7	IR IN	Connects to the IR Receiver cable. The IR signal will send to the IR OUT port of the Transmitter.
8	IR OUT	Connects to the IR Blaster cable, the IR signal is from IR IN port of the Transmitter.
9	DC 12V	DC 12V/1A power input port. Note that the extender supports PoC functionality. Either the Transmitter or Receiver needs to connect to the 12V/1A power supply, the other does not need power supply.
10	ARC DIP switch	Use the DIP switch to control ARC function. (Switching to the upper end indicates 1; switching to the lower end indicates 0. Note that only the left switch is valid, the right switch is invalid.) 1X - Disable the ARC function 0X - Enable the ARC function

Note:

- When the ARC function is enabled, the audio returned from the ARC supported TV connected to the Receiver will be output through the TOSLINK port (not the HDMI IN port or HDMI OUT port of the Transmitter).
- When the ARC function is disabled, the audio extracted from the HDMI IN port of the Transmitter will be output through the TOSLINK port.

5.3 IR Pin Definition

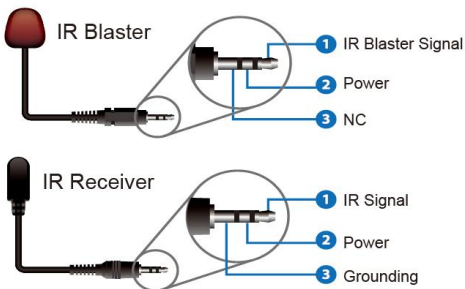
IR Receiver and Blaster pin's definition is as below:



IR RECEIVER



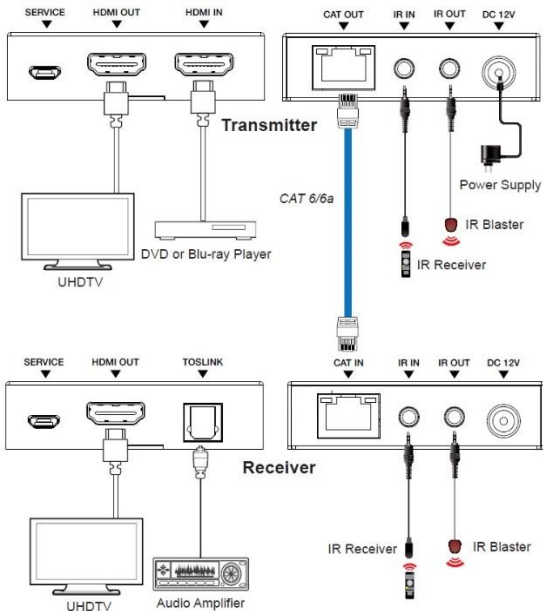
IR BLASTER



Note:

- When the angle between the IR Receiver and the Remote Control is $\pm 45^\circ$, the transmission distance is 0 - 5 meters.
- When the angle between the IR Receiver and the Remote Control is $\pm 90^\circ$, the transmission distance is 0 - 8 meters.

6. Application Example



HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

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