

4K60 HDBaseT Network Cable Extender (100 meters)

User Manual Version 1.0

1. Product Preview



2. Packaging Directory

- ① 1 x HDBaseT extender (transmitter side – TX)
- ② 1 x HDBaseT extension cable (receiving end – RX)
- ③ 1 x IR receiving cable
- ④ 1 x IR emission line
- ⑤ 1 x 24V/2A power adapter
- ⑥ warranty card
- ⑦ certificate
- ⑧ instructions

3. summary

Our HDBaseT extender employs digital uncompressed transmission technology, delivering a maximum video resolution of 3840×2160 at 60 Hz. It extends high-definition video signals, USB, IR, audio, and RS232 signals over Cat5e/6/7 Ethernet cables up to 100 meters (standard mode) or 150 meters (long-distance mode). This system provides users with an efficient, stable, and convenient signal transmission solution that meets diverse high-definition transmission requirements across various scenarios.

This product consists of a local unit (marked TX) and a remote unit (marked RX), designed for paired use.

This product can be widely applied in multimedia systems, surveillance applications, large-screen advertising, education, banking and securities systems, among others.

4. Product Features

- Extends signals from HDMI, USB, RS232, IR, audio, etc., with a maximum range of 150 meters (long-range mode).
- Using HDBaseT transmission technology, it ensures uncompressed and latency-free video signal transmission, guaranteeing smooth playback without lag or screen artifacts.
- Supports 4:4:4 sampling, accurately reproducing the color information of original images to meet stringent color accuracy requirements in professional fields such as design and film production.
- Use a single network cable (CAT5e/6/7) to transmit multiple signals simultaneously, reducing wiring costs and complexity.
- Supports full HD video resolutions of $3840 \times 2160@60\text{Hz}$, $3840 \times 2160@30\text{Hz}$,

1920×1080@60Hz, and lower resolutions;

- Supports independent separation of both audio channels
- Supports USB 3.0 transfers with any USB 3.0-enabled device;
- Supports bidirectional infrared signal and RS-232 signal transmission;
- Supports POC power supply—only need to power either the RX or TX end.

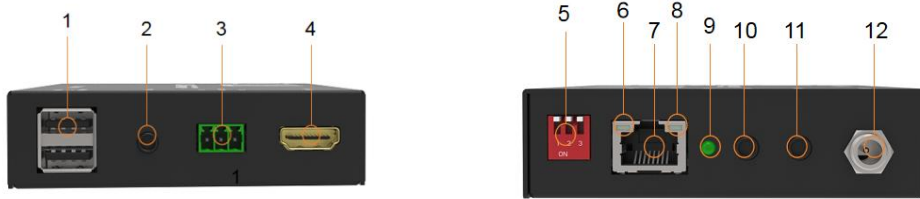
5. function declaration

5.1 TX face-plate



number	name	functional description
①	USB HOST	USB expansion port for connecting to a computer.
②	RS232 Interface	RS-232 serial port for serial command transmission.
③	Audio	Audio separation input port.
④	HDMI IN	HDMI signal input port.
⑤	MODE SELECT	Set different output resolutions.
⑥	Data Signal Indicator (Yellow)	Chang Liang: The HDMI signal includes HDCP. Flash: The HDMI signal does not support HDCP. Not bright: No HDMI signal.
⑦	HDCP OUT	Using CAT5E, CAT6, and CAT7 network cables, various signal types can be transmitted seamlessly.
⑧	Data Signal Indicator (Green)	Chang Liang: The transmitter and receiver are connected properly. Flash: Poor connection between the transmitter and receiver. Not lit: The transmitter and receiver are not connected.
⑨	power light	When the transmitter/receiver is powered on, the green power indicator light turns on.
⑩	IR IN	Receive the IR remote control signal.
⑪	IR OUT	Send an IR remote control signal.
⑫	DC24V	DC 24V/2A power supply interface. (Note: This extension supports POC power supply; only one end—either the RX or TX port—is required to connect to the power source.)

5.2 RX face-plate



number	name	functional description
①	USB Interface	Connect the mouse and keyboard.
②	RS232 Interface	RS-232 serial port for serial command transmission.
③	Audio	Audio separation output port.
④	HDMI OUT	HDMI signal output port.
⑤	MODE SELECT	Set different output resolutions.
⑥	Data Signal Indicator (Yellow)	Chang Liang: The HDMI signal includes HDCP. Flash: The HDMI signal does not support HDCP. Not bright: No HDMI signal.
⑦	HDCP IN	Using CAT5E, CAT6, and CAT7 network cables, various signal types can be transmitted seamlessly.
⑧	Data Signal Indicator (Green)	Chang Liang: The transmitter and receiver are connected properly. Flash: Poor connection between the transmitter and receiver. Not lit: The transmitter and receiver are not connected.
⑨	power light	When the transmitter/receiver is powered on, the green power indicator light turns on.
⑩	IR IN	Receive the IR remote control signal.
⑪	IR OUT	Send an IR remote control signal.
⑫	DC24V	DC 24V/2A power supply interface. (Note: This extension supports POC power supply; only one end—either the RX or TX port—is required to connect to the power source.)

5. 3 Resolution and Distance Mode Settings

5.3.1 Switch between different resolutions by adjusting the dial codes. (Note: To set 4K resolution, adjust both the RX and TX dial codes; to set 2K resolution, adjust only the TX dial code.)

	SW1	SW2	SW3
Ctrl	1	0	0
720P30	1	1	0
720P60	1	1	1
1080P30	0	1	1
1080P60	0	0	1
4K30	0	1	0
4K60	0	0	0



5.3.2 The following protocols apply when the dialer is in control mode:

3840×2160 @ 60 Hz; Transmission mode protocol: 4K,100×

1920×1080 @ 60 Hz; Transmission mode protocol: 2K,150×

5. 4 Introduction to IR Lines

The IR transmitting line and IR receiving line are shown below:



IR emitting beam; IR receiving beam
IR emitting beam; IR receiving beam

6. technical parameter

Parameter Specifications	
HDCP compatible	Supports HDCP 2.2/HDCP 1.4
HDMI compatible	Supports HDMI 2.0
video bandwidth	18Gps
Video Resolution	3840*2016@60Hz 4:4:4
color space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, , YCbCr 4:2:0
Color Depth	8/10/12-bit
HDMI Audio Format	LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
3.5mm Independent Audio	PCM 2.0
Ethernet	1000Mbps
transmission distance	100 m (Standard Mode), 150 m (Long-Distance Mode, supports resolutions of 1920×1080@60 Hz or lower only)
linkage	
TX (transmitting terminal)	Input Port: 1 x HDMI IN Output Port: 1 x HDMI OUT 1 x HDBT OUT Control Port: 1 x IR IN 1 x IR OUT 1 x RS-232 (Phoenix terminal) 1 x USB2.0 1 x DIP switch
RX (receiving terminal)	Output Ports: 2 x HDMI OUT 1 x HDBT IN Control Port: 1 x IR IN 1 x IR OUT 1 x RS-232 (Phoenix terminal) 1 x USB2.0 1 x DIP switch
fuselage	
hull	metal case
pigment	black
size	
weight	

Power Supply Voltage	Input: AC 100–240 V, 50/60 Hz output : DC24V/2A	
Transmission Distance/Resolution	1080P@60Hz or lower	150 meters
	4K x 2K@60Hz	100 meters
power dissipation	$\leq 50\text{W}$	
storage temperature	$-20^{\circ}\text{C}\sim 65^{\circ}\text{C}$	
working temperature	$0^{\circ}\text{C}\sim 50^{\circ}\text{C}$	
electrostatic protection	$\pm 4\text{ kV}$ (contact discharge), $\pm 8\text{ kV}$ (air discharge)	
Mean Time Between Failures (MTBF)	>20,000 hours	