

# User Manual

## 4K60 HDBaseT Extender (150m)

### Support USB2.0 Transmission



Manual No: V2.0



**Dear user:**

Thank you for using the product of our company. In order to better experience the visual effect brought by this product, we have prepared a detailed user manual.

Please read the user manual carefully before you start to use this product, from which you can get the knowledge about product introduction, usage and other aspects, so that you can use this machine correctly. If you don't understand anything, please feel free to contact us!

**Tips:** This manual is for reference only. If it is updated, no further notice will be given!

This user manual mainly introduces the use method, main performance parameters, equipment connection, important safety instructions and other information of the extender.

This manual is only used as the user's operation instruction, not for maintenance service. If there are any changes in the functions or related parameters from the date of issuance, they will be supplemented by additional information, which can be obtained from us or our distributors.

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# 1. Product Preview



# 2. Package Contents

- ① 1 x 4K60 HDBaseT Extender (Transmitter)
- ② 1 x 4K60 HDBaseT Extender (Receiver)
- ③ 1 x IR broadband Receiver cable (1.5 meters)
- ④ 1 x IR Transmitter cable (1.5 meters)
- ⑤ 4 x Hanging ear
- ⑥ 8 x Machine Screws (KM3\*4)
- ⑦ 1x 24V/1A Locking Power adapter
- ⑧ 1x User Manual

### 3. Introduction

This 4K60 HDBaseT extender can extend HDMI HD signals, bidirectional IR control signals and USB KVM signals by 150 meters (Long Reach mode) through a single Category 6 network cable (CAT6). This product converts the HDMI signal into a standard HDBaseT signal and then transmits it through the LAN cable. The signal source device or display device can be remotely controlled through the bidirectional IR signal transmission function. Video resolution up to 4K2K @ 60Hz YUV 4:4:4. Support USB2.0 transmission and bidirectional POC function.

This product can be widely used in video conference system, multimedia signal broadcasting, HDMI signal extension and other fields.

### 4. Features

- ✧ HDMI2.0b, HDCP 2.2 compliant
- ✧ Support 18Gbps video bandwidth
- ✧ Support video resolution up to 4K2K@60Hz (YUV 4:4:4)
- ✧ Built-in mode dial switch to select HDBaseT mode or Long Reach mode:

HDBaseT mode:

USB supports USB2.0 transmission (USB camera, USB disk and other devices can be connected); the transmission distance of audio and video signals can be extended to 100 meters (resolution of 4K60).

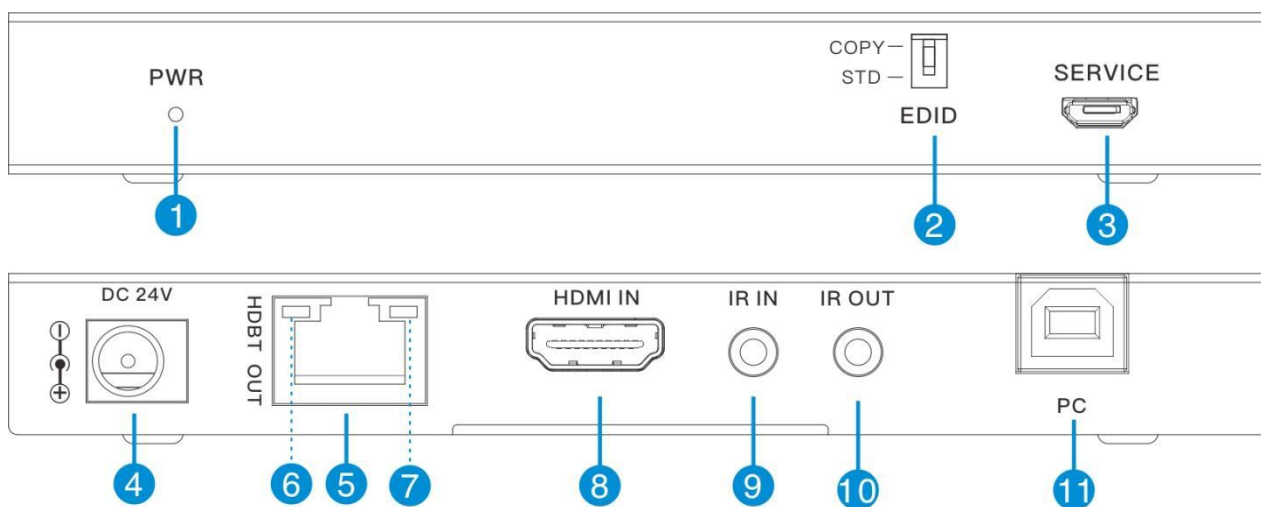
Long Reach Mode:

USB only supports HID (Human Interface Device) devices; audio and video signal transmission distance can be extended to 120 meters (resolution of 4K60) or 150 meters (resolution of 1080p).

- ✧ Support bidirectional IR signal and USB KVM signal transparent transmission
- ✧ Support bidirectional POC function
- ✧ Intelligent EDID management
- ✧ Reasonable design and easy installation

## 5. Functional Description

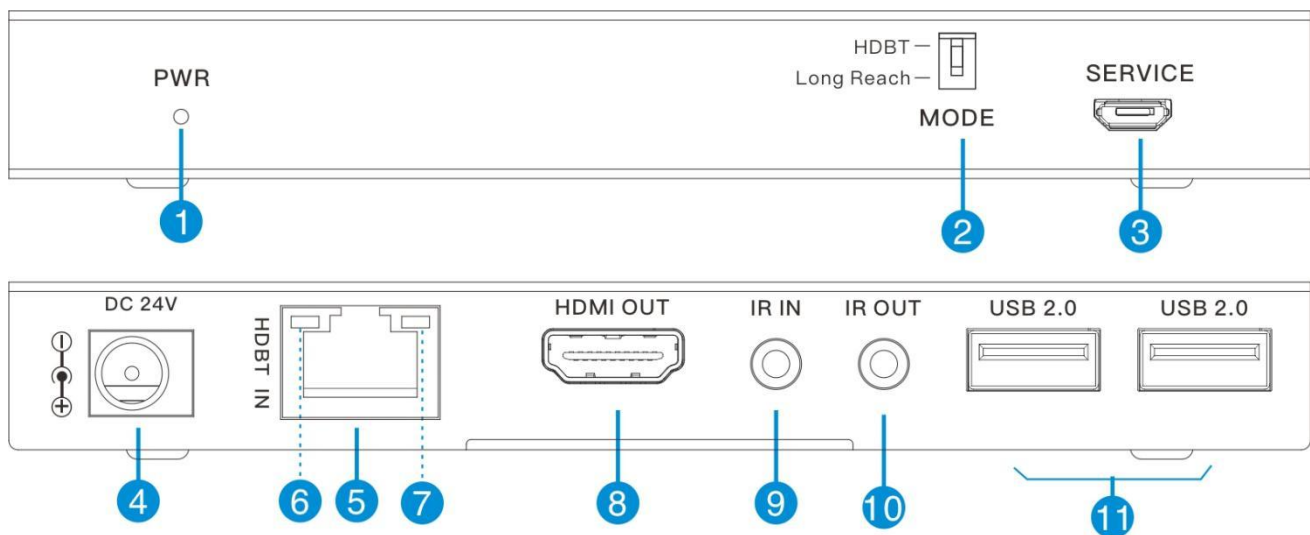
### 5.1 Transmitter Panel



No.	Name	Function Description
1	Power LED	The red power LED is on when the Transmitter is powered on.
2	EDID DIP Switch	Used to set the audio EDID (dial to COPY by factory default). COPY: Copy the EDID of the Receiver's HDMI OUT port. STD: Default 1080p 2CH
3	SERVICE	Firmware update port

4	DC 24V	DC 24V/1A power supply port Note: the Extender supports POC function, If one of the transmitter or receiver is already connected to 24 V/1A power supply, the other does not need to be connected to power supply.
5	HDBT OUT	HDBT output port, connect the HDBT IN port of the Receiver via the CAT6 network cable.
6	Link Signal Indicator (Green)	Normally on: Transmitter and Receiver are connected normally. Flashing: The transmitter and receiver are in in poor connection status. Off: The transmitter and Receiver are not connected
7	Data Signal Indicator (Yellow)	Normally on: HDMI signal with HDCP Flashing: HDMI signal without HDCP Off: No HDMI signal
8	HDMI IN	HDMI signal input port, connect the HDMI signal source device via the HDMI cable
9	IR IN	Connect the IR receiving cable to receive the IR remote control signal. The IR signal is sent to the IR OUT port of the Receiver.
10	IR OUT	Connect the IR emission cable to transmit the IR remote control signal. The IR signal comes from the IR IN port of the Receiver
11	PC	USB Type B port, connect to PC

## 5.2 Receiver Panel



No.	Name	Function Description
1	Power LED	The red power LED is on when the Receiver is powered on.
2	MODE DIP switch	Used for mode setting (dial to HDBT by factory default) HDBT: Switch to HDBaseT mode Long Reach: Switch to Long Reach mode

3	SERVICE	Firmware update port
4	DC 24V	DC 24V/1A power supply port Note: the Extender supports POC function, If one of the transmitter or receiver is already connected to 24 V/1A power supply, the other does not need to be connected to power supply.
5	HDBT IN	HDBT input port, connect the HDBT OUT port of the Transmitter via the CAT6 network cable.
6	Link Signal Indicator (Green)	Normally on: Transmitter and Receiver are connected normally. Flashing: The transmitter and receiver are in in poor connection status. Off: The transmitter and Receiver are not connected.
7	Data Signal Indicator (Yellow)	Normally on: HDMI signal with HDCP Flashing: HDMI signal without HDCP Off: No HDMI signal
8	HDMI OUT	HDMI signal output port, connect the HDMI signal source device via the HDMI cable
9	IR IN	Connect the IR receiving cable to receive the IR remote control signal. The IR signal is sent to the IR OUT port of the Transmitter.
10	IR OUT	Connect the IR emission cable to transmit the IR remote control signal. The IR signal comes from the IR IN port of the Transmitter.
11	USB 2.0 Port	2×USB Type A port, Connect the USB 2.0 device. (The maximum output current for single USB2.0 port is 500 mA, beyond which it will not work).

### 5.3 IR line introduction

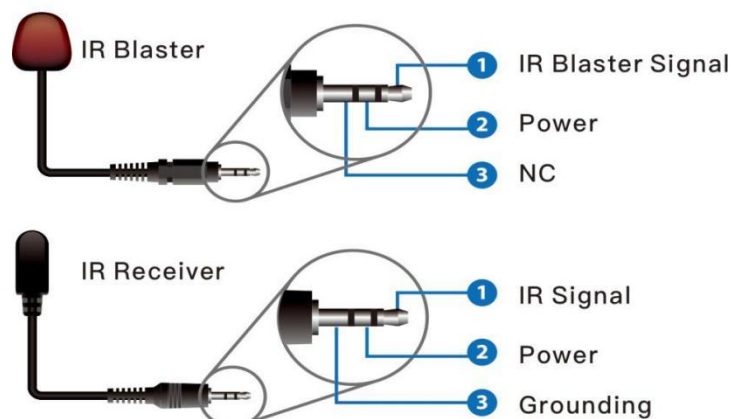
The IR receive and transmit heads are as follow:



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;

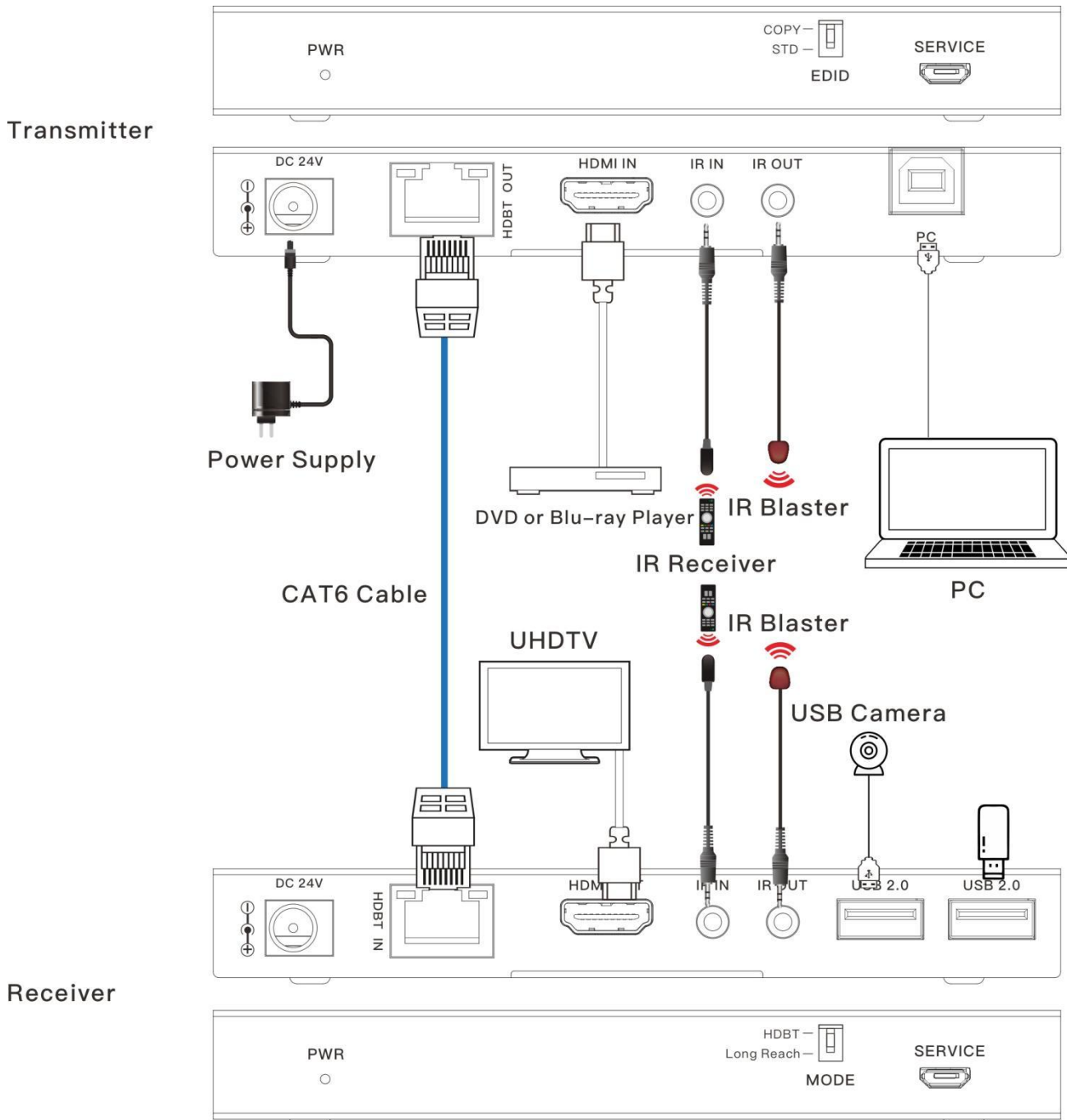
When the angle between the IR receiver and the remote control is  $\pm 90^\circ$ , the transmission distance is 0-8 meters.

## 6. Technical Parameters

Parameter Specifications	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Up to 4K2K@60Hz YUV 4:4:4
USB Compliance	USB 2.0
IR Level	5Vp-p
IR Frequency	Wide-band 20K-60KHz
Transmission Distance	HDBaseT mode: 4K60---100m Long Reach mode: 1080P---150m, 4K60---120m
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 Format	LPCM 7.1CH, Dolby True HD and DTS-HD Master
ESD Protection	Human body model: $\pm 8\text{kV}$ (Air-gap discharge), $\pm 4\text{kV}$ (Contact discharge)





<b>Connection</b>	
Transmitter	<p><b>Input Port:</b>            1 x HDMI IN [Type A, 19-pin female]            1 x IR IN [3.5mm Stereo Mini-jack]            1 x SERVICE [Micro-USB port]            1 x USB [USB-B, 4-pin female]</p> <p><b>Output Port:</b>            1 x HDBT OUT [RJ45, with indicator light]            1 x IR OUT [3.5mm Stereo Mini-jack]</p>
Receiver	<p><b>Input Port:</b>            1 x HDBT IN [RJ45, with indicator light]            1 x IR IN [3.5mm Stereo Mini-jack]            1 x SERVICE [Micro-USB port]</p> <p><b>Output Port:</b>            1 x HDMI OUT [Type A, 19-pin female]            1 x IR OUT [3.5mm Stereo Mini-jack]            2 x USB2.0 [Type A, 4-pin female]</p>
<b>Mechanical</b>	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter/ Receiver:140mm (L)x65mm(W)x18mm(H)
Weight	Transmitter: 245g, Receiver: 249g
Power Supply	DC 24V/1A; Support bidirectional POC function
Power Consumption	13.2W (Maximum)
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)

# 7. Application Examples




✧ Safety Instructions

Symbols used in the user manual and on the device to indicate the risk of injury to the user or others and damage to property. For your safe and correct use of the device, the symbols and their meanings are as follows. Please make sure to understand these symbols correctly before reading the user manual.

	<p>The product contains some metal components, please pay attention to environmental protection.</p>
	<p>This is a Class A product and may cause radio interference in the living environment. In this case, the user may be required to take practical measures against the interference.</p>
	<p>Warn the user that uninsulated hazardous voltage present in the equipment may cause a person to receive an electric shock.</p>
	<p>Warning: To avoid electric shock, do not open the cover and do not put useless parts inside the case. Please contact qualified service personnel.</p>

✧ General Information Instructions

	<p>Lists what may cause an unsuccessful operation or setup, and some related information to be aware of.</p>
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**WARNING**

To ensure reliable use of the equipment and personal safety, please observe the following items during installation, use and maintenance:

**Precautions for installation:**

- ◆ Do not use this product in the following places: places with dust, oil smoke, conductive dust, corrosive gas and flammable gas. Places exposed to high temperature, condensation, wind and rain; places with vibration and impact. Electric shock, fire, misoperation can also cause product damage and deterioration.
- ◆ When processing and wiring screw hole, do not make metal chips and wire ends fall into the ventilation hole of the controller, which may cause fire, failure and misoperation.
- ◆ After the installation of the product, it is necessary to ensure that there is no foreign matter on the ventilation surface, including dust-proof paper and other packaging items, otherwise it may lead to poor heat dissipation during operation, causing fire, failure and misoperation.
- ◆ Avoid wiring, plugging and unplugging cable plugs in live state, otherwise it is easy to cause electric shock or circuit damage.
- ◆ Installation and wiring must be firm and reliable, and poor contact may lead to misoperation.
- ◆ For applications with serious interference, shielded cables should be selected for

the input or output cables of high frequency signals to improve the anti-interference performance of the system.

### **Precautions for Wiring:**

- ◆ The installation and wiring can only be carried out after the external power supply is completely cut off, otherwise it may cause electric shock or equipment damage.
- ◆ This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to the ground. Before connecting the input or output of this product, please be sure to ground the product correctly.
- ◆ After installation and wiring, remove foreign matters immediately, and cover the terminal cover plate of the product before power on to avoid electric shock.

### **Precautions for operation and maintenance:**

- ◆ Do not touch the terminal when it is powered on, otherwise it may cause electric shock and misoperation.
- ◆ Please clean and tighten the terminal after turning off the power supply. These operations may cause electric shock when the power is on.
- ◆ Please connect or remove the communication signal cable and the cable of the expansion module or control unit after the power is turned off. Otherwise, it may cause equipment damage and misoperation.
- ◆ Do not disassemble the device to avoid damaging the internal electrical components.
- ◆ Please be sure to read this manual carefully and fully confirm the safety before

changing, commissioning, starting and stopping the program.

**Precautions for product scrapping:**

- ◆ Electrolytic capacitors on circuit boards may explode when burned.
- ◆ Please collect and dispose of it, and do not put it into domestic garbage.
- ◆ Please dispose of as industrial waste or in accordance with local environmental protection regulations.