Disclaimer

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User Manual

4K 60Hz HDMI EXTENDER



HIGH-DEFINITION MULTIMEDIA INTERFACE

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.

• Important Safety Instructions:

1) Do not expose this device to rain or place it near water. Any liquid that goes into the device may cause a failure, fire, or electric shock.
2) Never insert anything metallic into the open parts of this device. This may cause a danger of electric shock.
3) Do not place this device near or over a radiator or heat register, or where it is exposed to direct sunlight.
4) The device should be repaired only by a qualified technician.
5) If a third-party power supply is used, please ensure that the power supply specifications meet the product requirements.

• Introduction

This product is a 4K@60Hz HDMI extender kit consisting of a transmitter and a receiver, using ipcolor STREAM technology for high-definition, low-latency transmission. The 4K@60Hz HDMI signal can be extended up to 120m via Category 6 and above network cables, supporting one-to-one connection, one-to-many connections via gigabit switch, or switch cascades. It also supports HDMI loop out, IR passback, and RS-232 passthrough functions, and can be widely used in meetings, home entertainment, educational presentations, and other fields.

• Features

1. Adopting ipcolor STREAM technology can realize high-definition and low-latency transmission.
2. Support up to 3840 x 2160@60Hz resolution, backward compatible.
3. Compatible with Cat5/5e/6 or above network cables, transmission distance of Cat6 cable is 120 meters.
4. Support one-to-one or one-to-many connections through the gigabit switch.

5. Support RS-232 passthrough.
6. The transmitter supports HDMI loop out.
7. Support IR passback (20~60kHz).
8. Firmware can be upgraded through Micro USB.
9. Lightning protection, surge protection, ESD protection.
10. Working 24/7.

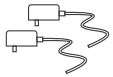
• Package Contents



Transmitter x1



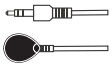
Receiver x1



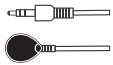
DC5V/1A
Power adapter x 2



User manual x1



IR receiver extension cable x1



IR blaster extension cable x1



Mounting ear x4



Screw x10



Grounding Screw x1

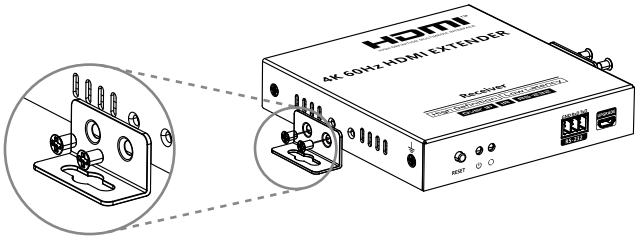


Terminal block (RS-232) x2

• Installation Requirements

Item	Description	Requirement
Signal source device	PC, DVD, NVR, etc. with HDMI port	HDMI cable ≤ 5m
Cable	Cat5/5e/6 or above, following standard IEEE-568B	Cat6/6A/7 ≤ 120m
Display device	TV, projector, LED screen, etc. with HDMI port	HDMI cable ≤ 5m
Network switch	one-to-many or switch cascade	Gigabit switch

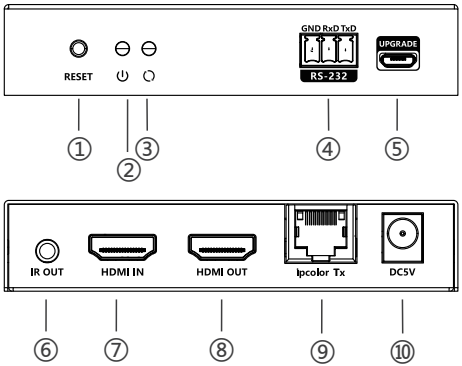
• Wall Mounting



Note: Choose the wall mounting position and attach the mounting ears to the unit according to the diagram.

• Panel Description

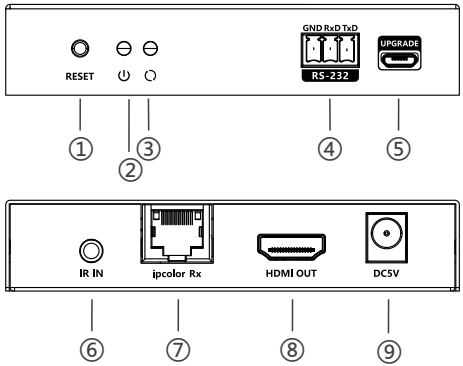
1. Transmitter



①	Reset	Press to restart the device
②	Power indicator (blue)	The indicator will turn on when the power is turned on
③	Status indicator (orange)	1) **Light off**: The transmitter and the receiver have not established a connection 2) **Slow flash**: The transmitter and the receiver are connected but no video data transmission (gigabit Ethernet) 3) **Quick flash**The transmitter and the receiver are connected but no video data transmission (100M Ethernet) 4) **Steady on**: The video data is transmitting
④	RS-232 (GND/RXD/TXD)	Used for RS-232 passthrough
⑤	Micro USB interface	Used for firmware upgrade

⑥	IR output	Connect with IR blaster extension cable
⑦	HDMI input	Connect with HDMI source device
⑧	HDMI out	Connect with local HDMI display device
⑨	ipcolor Tx (RJ45)	Connect with the network cable
⑩	Power	Connect with DC5V/1A power adapter

2. Receiver



①	Reset	Press to restart the device
②	Power indicator (blue)	The indicator will turn on when the power is turned on
③	Status indicator (orange)	1) **Light off**: The transmitter and the receiver have not established a connection 2) **Slow flash**: The transmitter and the receiver are connected but no video data transmission (gigabit Ethernet) 3) **Quick flash**: The transmitter and the receiver are connected but no video data transmission (100M Ethernet) 4) **Steady on**: The video data is transmitting

④	RS-232 (GND/RXD/TXD)	Used for RS-232 passthrough
⑤	Micro USB interface	Used for firmware upgrade
⑥	IR input	Connect with IR receiver extension cable
⑦	ipcolor Rx (RJ45)	Connect with the network cable
⑧	HDMI output	Connect with HDMI display device
⑨	Power	Connect with DC5V/1A power adapter

• Installation Procedures

1. How to make a network cable

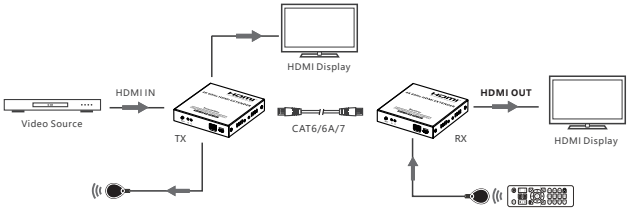


Follow the standard of IEEE-568B:

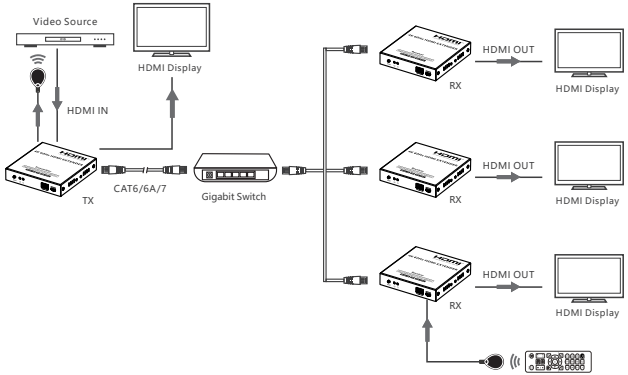
1-white and orange 2-orange 3-white and green 4-blue
5-white and blue 6-green 7-white and brown 8-brown

2. Connection Diagrams

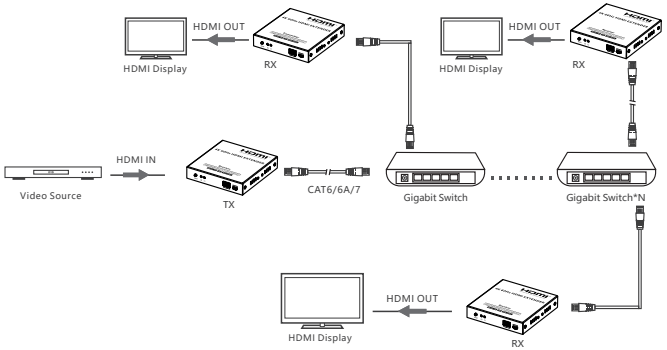
2.1 One-to-one connection



2.2 One-to-many connection (through gigabit switch):



2.3 One-to-many connection (cascade of gigabit switches):

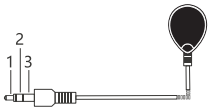


Note: It is suggested to use gigabit (1000 Mbps) switches in LAN transmission, and 100Mbps switches should not be mixed with gigabit switches when cascading.

3. Connection Instructions

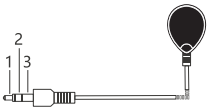
1) Connect the source device to the HDMI IN port of the transmitter with an HDMI cable, and connect the HDMI OUT port of the receiver to the display device with another HDMI cable.
2) If it's a one-to-one connection, use a network cable to connect the RJ45 port of the transmitter and receiver. If it is a one-to-many connection, use the gigabit switch as a bridge to connect the transmitter and the receivers with the network cable respectively.
3) If using HDMI loop out, connect the display device to the HDMI OUT port of the transmitter.
4) Plug the power supply into the devices to get started.

4. IR User Guide



IR blaster

1. Power
2. IR Signal
3. Null



IR receiver

1. Power
2. IR Signal
3. Grounding

1) IR blaster extension cable should plug in the IR OUT port of transmitter, and the IR receiver extension cable should plug in the IR IN port of the receiver.
2) The emitter of the IR blaster extension cable should be as close as possible to the IR receiving window of the source device.
3) Point the remote control at the receiving head of the IR receiver extension cable to operate.

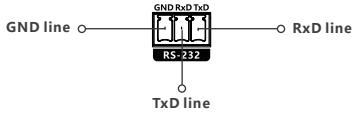
5. RS-232 bi-directional passback function:

5.1 Baud rate

Different encoding mechanisms cannot be mixed, the baud rate of the RS-232 port of this transmitter and receiver is 2400, 4800, 9600, 19200, 38400, 57600, 115200.

5.2 Line order

Make sure the RS-232 serial line is firmly connected and that the serial data line is connected correctly as follows:



If the RS-232 serial does not work by following the above connection, please try to change the order of the TXD line and RXD line.

5.3 Check baud rate

If you need to check the baud rate, set the baud rate value of the serial port test tool to the default value of 115200, connect the serial port test tool to the product, and then power on the product. The baud rate printed at this time is the current baud rate. For example:
"Baudrate:9600", that is, the baud rate value is 9600.

5.4 Set baud rate

For example: the baud rate of the product is 9600, and the baud rate of the serial port test tool is 115200. At this time, the baud rate of the serial port test tool must be set to 9600, which is consistent with the product, and then input the command you want to set "Bset:19200", if "Succeed" is displayed after sending data, the baud rate 19200 is set successfully.

• FAQ

Q: Why the status indicator is off?
A: Please check whether all equipment is powered on and the network cable is connected properly.

Q: Why is the status indicator has been flashing?
A: 1) Please check whether there is HDMI signal input for the TX.
2) Try to connect the signal source directly to the display device, or try to change the signal source and HDMI cable and test again.

Q: Why is the output image unstable?
A: 1) Check whether the length of the network cable is within the specified range.
2) The length of HDMI cable is recommended to be ≤ 5 meters.
3) Press the "reset" button on TX and RX panels to restart and reconnect.

• Technical Parameters

Item	Transmitter	Receiver
Video		
Input interface	1x HDMI	1x RJ45
Output interface	1x HDMI 1x RJ45	1x HDMI
HDMI length	≤ 5m	≤ 5m
Maximum transfer rate	18Gbps	
Compatibility	HDMI 2.0	
	HDCP 1.4/HDCP 2.2	
Resolutions	3840x2160@24/30/50/60Hz, 1080p@50/60Hz, 720p@50/60Hz, 1920x1200@60Hz, 2560x1440@60Hz, 2560x1600@60Hz	
Connection types	One-to-one connection One-to-many connection Switch cascading	
Transmission distance	Cat6/6A/7≤120m	
Transmission latency	70~180ms	
Command Signal		
IR interface	1x 3.5mm IR out	1x 3.5mm IR in
IR receiving range	≤ 5m	
IR frequency	20kHz~60kHz	
RS-232 (GND/RXD/TXD)	Default baud rate: 115200 Supported: 2400, 4800, 9600, 19200, 38400, 57600, 115200	
Power		
Power Supply	DC 5V/1A	DC 5V/1A
Power Consumption	TX ≤ 4.5W	RX ≤ 2.5W

Operating Environment		
Working temperature	- 20℃~60℃	
Storage temperature	- 30℃~70℃	
Humidity	0~90%RH (no condensation)	
Physical Properties		
Housing	Iron	
Weight	254g	242g
Color	Black	
Dimensions	106.0(L)*103.0(W)*20.6(H)mm	
Protection	ESD protection 1a Contact discharge level 2 (±4KV) 1b Air discharge level 3 (±8KV) Implementation of the standard: IEC61000-4-2	
	Lightning protection, Surge protection	