

材质:200g哑粉纸 正反印刷
尺寸: 100x138mm

H21001英文说明书AH1 V2.0 : 0106010021959

User Manual

4K@60Hz HDMI OverIP Extender



• Important Safety Instructions:

- To prevent electric shock, please ensure that all apparatus is properly grounded.
- Do not place this apparatus near or over a radiator or heat register, or where it is exposed to direct sunlight.
- Place the device in a well-ventilated area, do not block any ventilation openings.
- Do not expose this apparatus to rain or place it near water. Any liquid that goes into the apparatus may cause a failure, fire, or electric shock.
- Do not place the device on an uneven or unstable surface. The device may fall resulting in a malfunction.
- Never insert anything metallic into the open parts of this apparatus. This may cause a danger of electric shock.
- If a three-party power supply is used, please ensure that the power supply specifications meet the product requirements.

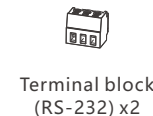
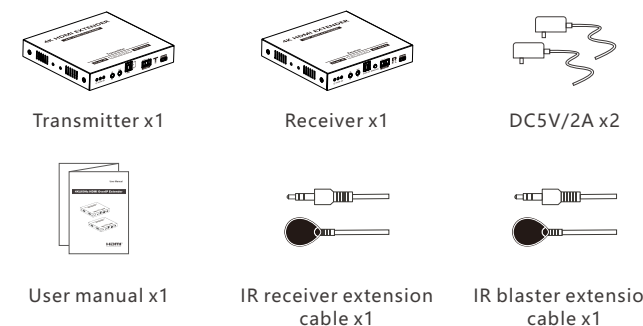
• Introduction

This is an HDMI over IP extender kit, which adopts ipcolor technology and can realize zero latency and visually lossless compression transmission. The 4K@60Hz HDMI signal can be extended by 100m through CAT6/6A/7 network cable. It has functions like HDMI loop out, bi-directional IR passthrough, ARC, etc. It supports one-to-one connection, and also supports one-to-many connection through Gigabit switch or realize switch cascade connection. This kit is a reliable ultra-high definition video transmission solution, which is widely used in security monitoring, rail transit, broadcasting, smart cities and other fields.

• Features

- Zero-latency transmission.
- Extend 4K@60Hz HDR HDMI signal up to 100m/328ft over Cat6/6A/7 cable.
- Support one-to-many connection through the gigabit switch.
- Support HDMI ARC and HDMI CEC.
- Support RS-232 passthrough and command control.
- The transmitter supports HDMI loop out.
- Support bi-directional IR passthrough.
- The receiver can output the source audio additionally through the S/PDIF port.
- Support firmware upgrade via micro USB.
- Lightning protection, surge protection, ESD protection.
- Equipped with rack mount ears.

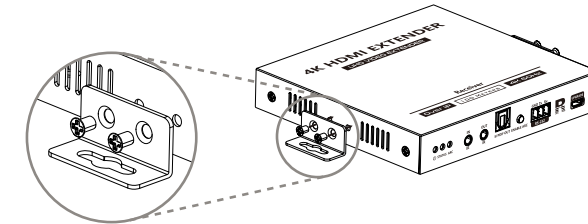
• Package Contents



• Installation Requirements

| Item | Description | Requirement |
|----------------|---|-----------------|
| Signal source | Devices with HDMI port (PC, DVD, NVR, etc.) | HDMI cable ≤5m |
| Cable | CAT6/6A/7, following standard IEEE-568B | CAT6/6A/7 ≤100m |
| Display device | TVs, projectors, etc. with HDMI port | HDMI cable ≤5m |
| Network switch | The switch(es) is required for one-to-many and switch cascading connections | Gigabit switch |

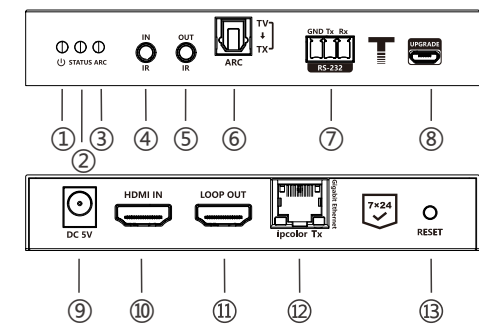
• Wall Mounting



Install the mounting ears on the unit according to the diagram, and select the wall mounting position to fix it.

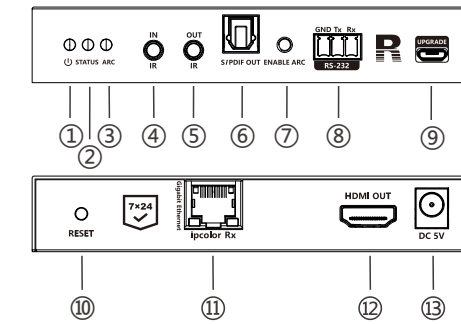
• Panel Description

1. Transmitter



| | |
|----------------------|---|
| ① Power indicator | The indicator will turn blue when the power is turned on |
| ② Status indicator | Light off: The transmitter and the receiver have not established a connection Slow flash (every 1 second): The transmitter and the receiver are connected but no video data transmission Quick flash (every 200ms): The video signal is connecting Steady on: The video data is transmitting |
| ③ ARC indicator | Light off: ARC is off Slow flash (every 1 second): The ARC between the TX and the RX is connected Quick flash (every 200ms): The ARC between the TV and the extender kit is connected Steady on: The ARC data is transmitting |
| ④ IR IN | Connect with IR receiver extension cable |
| ⑤ IR OUT | Connect with IR blaster extension cable |
| ⑥ S/PDIF port | Output the audio returned from the TV (ARC) |
| ⑦ RS-232 serial port | Used for RS-232 passthrough and command control |
| ⑧ Micro-USB port | Used for device firmware upgrade |
| ⑨ Power input | Connect with DC 5V/2A power adapter |
| ⑩ HDMI input | Connect with HDMI source device with HDMI cable |
| ⑪ HDMI loop out | Connect with local HDMI display device with HDMI cable |
| ⑫ RJ45 port | Connect with CAT6/6A/7 network cable |
| ⑬ Reset button | Press to restart the device |

2. Receiver



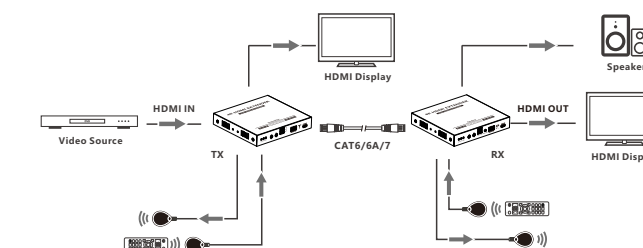
| | |
|--------------------|---|
| ① Power indicator | The indicator will turn blue when the power is turned on |
| ② Status indicator | Light off: The transmitter and the receiver have not established a connection Slow flash (every 1 second): The transmitter and the receiver are connected but no video data transmission Quick flash (every 200ms): The video signal is connecting Steady on: The video data is transmitting |
| ③ ARC indicator | Light off: ARC is off Slow flash (every 1 second): The ARC between the TX and the RX is connected Quick flash (every 200ms): The ARC between the TV and the extender kit is connected Steady on: The ARC data is transmitting |
| ④ IR IN | Connect with IR receiver extension cable |
| ⑤ IR OUT | Connect with IR blaster extension cable |
| ⑥ S/PDIF port | Output the digital audio |

| | |
|----------------------|---|
| ⑦ ARC switch | Turn on/off HDMI ARC |
| ⑧ RS-232 serial port | Used for RS-232 passthrough and command control |
| ⑨ Micro-USB port | Used for device firmware upgrade |
| ⑩ Reset button | Press to restart the device |
| ⑪ RJ45 port | Connect with CAT6/6A/7 network cable |
| ⑫ HDMI output | Connect with HDMI display device |
| ⑬ Power input | Connect with DC 5V/2A power adapter |

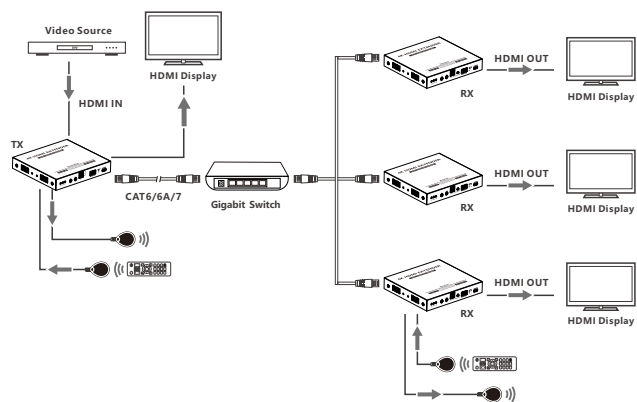
• Installation Procedures

1. Connection Diagrams

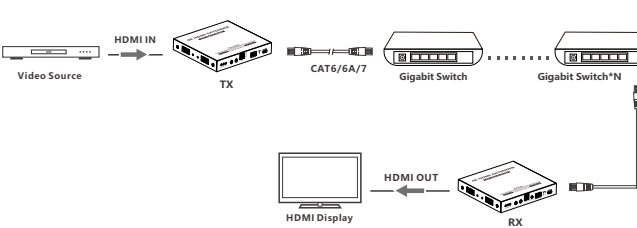
1.1 One-to-one connection



1.2 One-to-many connection



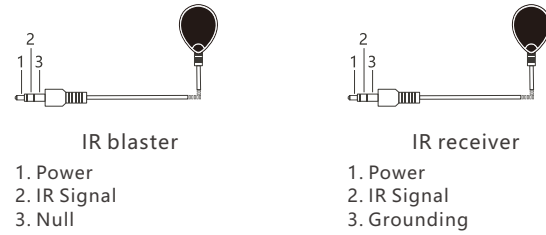
1.3 Switch cascading



2. 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 one to one connection, then use a Cat6/6A/7 cable to connect the RJ45 port of the transmitter and receiver. If it is one to many connection, then use the Gigabit switch as a bridge to connect the transmitter and the receivers with the Cat6/6A/7 cables respectively.
- 3) If using HDMI loop out, connect the display device to the LOOP OUT port of the transmitter.
- 4) If using IR passthrough, the IR blaster extension cable should plug in the IR OUT port of the transmitter and receiver, the IR receiver extension cable should plug in the IR IN port of the transmitter and receiver.
- 5) If using HDMI ARC, turn on the ARC switch first, then connect the ARC port of the transmitter to the speaker with optical fiber cable; if you need additional source audio from the receiver, connect the S/PDIF OUT port of the receiver to the audio device with optical fiber cable.
- 6) If using the RS-232 function, insert the terminal block(s) into the serial port(s) and connect it to an external device.
- 7) Plug the power supply into the devices to get started.

3. IR User Guide



- 1) IR blaster extension cable should plug in the IR OUT port of the transmitter or receiver, IR receiver extension cable should plug in the IR IN port of the transmitter or 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.

4. RS-232 User Guide

This product adopts hexadecimal RS-232 transparent transmission instructions, and use commands to control the transmitter or receiver. The default configuration is as follows:

Baud rate: 115200
Date bits: 8
Stop bits: 1
Parity: None

| Function | Control instruction code |
|--------------------------------|---|
| Restore device factory setting | BA A5 11 00 00 11 33 |
| Device restart | BA A5 10 00 00 10 30 |
| Set baud rate of the device | Set the baud rate to 2400 Send: BA A5 13 04 00 00 00 09 60 80 0F |
| | Set the baud rate to 4800 Send: BA A5 13 04 00 00 00 12 C0 E9 81 |
| | Set the baud rate to 9600 Send: BA A5 13 04 00 00 00 25 80 BC 67 |
| | Set the baud rate to 19200 Send: BA A5 13 04 00 00 00 4B 00 62 33 |
| | Set the baud rate to 38400 Send: BA A5 13 04 00 00 00 96 00 AD C9 |
| | Set the baud rate to 57600 Send: BA A5 13 04 00 00 00 E1 00 F8 5F |
| | Set the baud rate to 115200 Send: BA A5 13 04 00 00 01 C2 00 DA 24 |
| | Set the baud rate to 230400 Send: BA A5 13 04 00 00 03 84 00 9E AE |
| | Set the baud rate to 460800 Send: BA A5 13 04 00 00 07 08 00 26 C2 |
| | Set the baud rate to 921600 Send: BA A5 13 04 00 00 0E 10 00 35 E7 |
| CEC control | CEC ON Send: BA A5 15 01 00 01 17 58 |
| | CEC OFF Send: BA A5 15 01 00 00 16 57 |
| | CEC Status Send: BA A5 15 00 00 15 3F Recv:(CEC ON) BA A5 15 01 00 01 17 58 Recv:(CEC OFF) BA A5 15 01 00 00 16 57 |

Note:
If the RS-232 control instruction succeeds, it will return the control instruction code; if it fails, it will return the error code: BA A5 02 01 00 01 04 0C

• FAQ

- Q: Why the status indicator is off?
A:
1) Please check whether all equipment is powered on and the network cable is connected properly.
2) Try to change a network cable to connect.
- Q: Why is the status indicator has been flashing slowly?
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 it keeps showing "Search ipcolor Tx..." on the screen?
A: The transmitter and the receiver are not connected or they are connected but there is no data transmission. Please refer to the above two questions for the solution.
- Q: Why is the output image unstable?
A:
1) Check whether the length of the network cable connected from TX to RX is within 100meters.
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.
- Q: Why the HDMI ARC is not working?
A:
1) Please check whether the HDMI port connected to the receiver supports ARC function.
2) Please make sure that the HDMI ARC of the TV is turned on.
3) Press the ARC button on the receiver to enable ARC.

Technical Parameters

| Items | Transmitter | Receiver |
|--------------------------------|---|-------------------------------------|
| Video | | |
| Input interface | 1x HDMI Type A Female | 1x RJ45 Female |
| Output interface | 1x HDMI Type A Female 1x RJ45 Female | 1x HDMI Type A Female |
| HDMI Length | ≤5m | ≤5m |
| Maximum transfer rate | 18Gbps | |
| Maximum transmission bandwidth | 600MHz | |
| Compatibility | HDMI 2.0 (Deep color, 4K, HDR 10, YUV4:4:4) HDCP 2.2 | |
| Resolutions | 4096x2160@24/25/30/60Hz, 3840x2160@24/25/30/50/60Hz, 1080p@24/25/50/60Hz, 1080i@50/60Hz, 720p@50/60Hz, 1024*768, 1280*768, 1280*800, 1280*960, 1280*1024, 1440*900, 1400*1050, 1600*900, 1600*1200, 1680*1050, 1920*1080, 1920*1200, 2560*1440, 2560*1600 | |
| Connection type | One-to-one connection One-to-many connection Switch cascading | |
| Transmission distance | CAT6/6A/7 ≤100m | |
| Audio | | |
| Input interface | 1x HDMI Type A Female | N/A |
| Output interface | 1x HDMI Type A Female 1x TOSLINK | 1x HDMI Type A Female 1x TOSLINK |
| Audio formats | LPCM 7.1/DTS-HD/DTS-Audio/Dolby Digital plus/Dolby TrueHD/Dolby Digital/Dolby Atmos | |
| ARC | Support | |

| Command Signal | | |
|------------------------------|--|---|
| IR interface | 1x 3.5mm IR IN Female 1x 3.5mm IR OUT Female | 1x 3.5mm IR IN Female 1x 3.5mm IR OUT Female |
| Receiving range | ≤5m | |
| Infrared frequency | 20KHz~60KHz | |
| CEC | Support | |
| RS-232 | Baud rate: 115200 | |
| Power | | |
| Power Supply | DC5V/2A | DC5V/2A |
| Power Consumption | < 4W | < 4W |
| Operating Environment | | |
| Working temperature | -20°C~60°C | |
| Storage temperature | -30°C~70°C | |
| Humidity | 0~90%RH (No condensation) | |
| Physical Properties | | |
| Housing | Metal | |
| Weight | 335g | 335g |
| Color | Black | |
| Dimensions | 124.0 (L) x115.5 (W) x20.5 (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 | |
| Certifications | FCC/CE/RoHS | |

Disclaimer

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