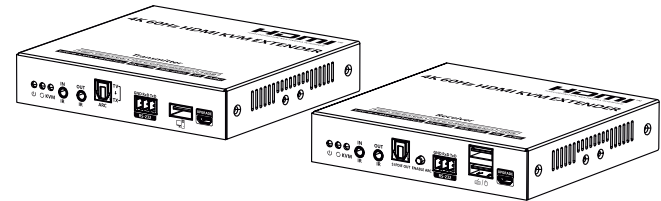H24079英文说明书AH2： 0106010022349
材质:157g 铜版纸
尺寸：100x138mm
装订方式：骑马钉

4K60Hz HDMI KVM EXTENDER

Disclaimer

The product name and brand name may be registered trademark of related manufactures. ™ and ® may be omitted on the user manual. The pictures in this user manual are just for reference. We reserve the rights to make changes without further notice to a product or system described herein to improve reliability, function or design.

• Important Safety Instructions:

1. To prevent electric shock, please ensure that all devices are properly grounded.
2. Do not place this device near or over a radiator or heat register, or where it is exposed to direct sunlight.
3. Do not place the device on an uneven or unstable surface, the device may fall resulting in a malfunction.
4. 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.
5. If a third-party power supply is used, please ensure that the power supply specifications meet the product requirements.

• Introduction

This 4K@60Hz HDMI KVM extender kit, building on ipcolor PIXEL technology to deliver zero compression AV signals across long distances with ultra-low latency. The 4K@60Hz HDMI signal can be extended up to 80 meters via Category 6 or higher-level networking cables, supporting one-to-one connection, one-to-many connection or switches cascading via 10G switch. Equipped with HDMI loop out, bi-directional IR passthrough, HDMI ARC, HDMI CEC, KVM, RS-232 command control, and audio extraction through S/PDIF output on the receiver. Widely used in security monitoring, rail transition, radio and television, smart cities and other fields.

• Features

1. Supports resolution up to 4K@60Hz, backwards compatible.
2. Built on ipcolor PIXEL technology to deliver zero compression AV signals across long distances with ultra-low latency.
3. Supports EDID Pass-back.
4. Compatible with HDMI2.0, also compatible with HDCP1.4/HDCP2.2.
5. Compatible with Cat6/6a/7 network cables, transmission distance up to 80 meters over Cat6 cable.
6. Supports one-to-one, one-to-many connection and 10G switch cascading.
7. Supports cascading of multiple receivers.
8. Supports bi-directional IR passthrough(20~60KHz).
9. Supports RS-232 passthrough and command control.
10. Supports HDMI ARC and HDMI CEC.
11. Supports KVM function.
12. With audio embedding and extraction, and the Receiver supports S/PDIF audio output.
13. The Transmitter supports HDMI loop out.
14. Firmware upgrading via Micro USB port.
15. Lightning protection, surge protection, ESD protection.
16. Working 24/7 .
17. Supports dolby vision.

• Package Contents

Transmitter x1

Receiver x1

DC5V/3A x2

User manual x1

IR receiver extension cable x1

IR blaster extension cable x1
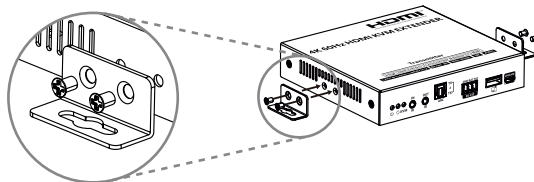
Mounting ear x4

Screw x10

USB cable x1

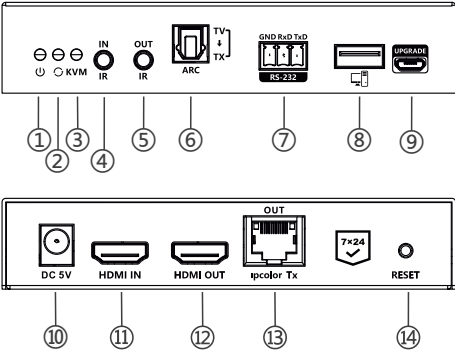Terminal block (RS-232) x2

Grounding screw x2

• Wall Mounting

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

• Installation Requirements

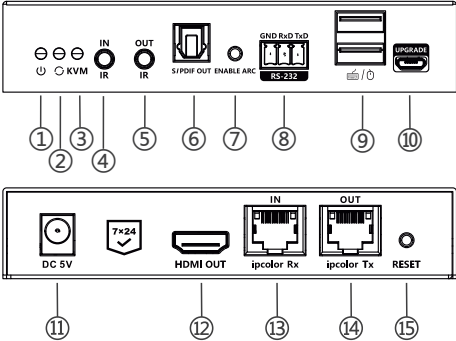| Item	Description	Requirement
Signal source device	PC, DVD, PS4, NVR, etc. with HDMI port.	HDMI cable ≤ 5m
Cable	CAT6/6A/7, following standard IEEE-568B	Cat6/6A/7 ≤80m
Display device	TV, indicator, projector, etc. with HDMI port.	HDMI cable ≤ 5m
Network switch	One-to-many or switch cascading	10G switch

• Panel Description

1. Transmitter

|		
①	Power indicator (blue)	The indicator will turn on when the power is on
②	Status indicator	**Light off**: No connection between the transmitter and the receiver **Slow flash**(every 1 second): The transmitter and the receiver are connected but no video data transmission **Quick flash**(every 200ms): The transmitter and the receiver are connected and video data transmission in progress **Steady on**: The video data is transmitting
③	KVM indicator	**Light off**: The computer and the USB port have not established a connection **Steady on**: The computer and the USB port are connected **Quick flash** (every 200ms): The KVM data is transmitting
④	IR IN	Connect with IR receiver extension cable
⑤	IR OUT	Connect with IR blaster extension cable
⑥	ARC port	Output the audio from the TV HDMI ARC signal passback
⑦	RS-232	RS-232 passthrough and command control
⑧	USB-A port	Connect to the computer with USB cable
⑨	Micro-USB port	Firmware upgrading
⑩	Power	Connect with DC5V/3A adapter
⑪	HDMI input	Connect with HDMI source device
⑫	HDMI output	Connect with HDMI display device
⑬	RJ45 output port	Connect with the CAT6/6A/7 networking cable
⑭	Reset	Short press to restart the device Long press 5s to restore factory settings

2. Receiver

①	Power indicator (blue)	The indicator will turn on when the power is on
②	Status indicator	**Light off**: No connection between the transmitter and the receiver **Slow flash**(every 1 second): The transmitter and the receiver are connected but no video data transmission **Quick flash**(every 200ms): The transmitter and the receiver are connected and video data transmission in progress **Steady on**: The video data is transmitting
③	KVM indicator	**Light off**: The keyboard/mouse and the USB port have not established a connection **Steady on**: The keyboard/mouse and the USB port are connected **Quick flash** (every 200ms): The KVM 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	For audio embedding and extraction
⑦	ARC button	Turned on/off ARC
⑧	RS-232 port	RS-232 passthrough and command control
⑨	USB-A port	Connect with the keyboard and mouse
⑩	Micro USB port	Firmware upgrading
⑪	Power	Connect with DC5V/3A adapter
⑫	HDMI output	Connect with HDMI display device
⑬	RJ45 input port	Connect with the CAT6/6A/7 networking cable
⑭	RJ45 output port	Connect with the CAT6/6A/7 networking cable Cascading of multiple receivers
⑮	Reset	Short press to restart the device Long press 5s to restore factory settings

• Installation Procedures

1. Connection Diagrams
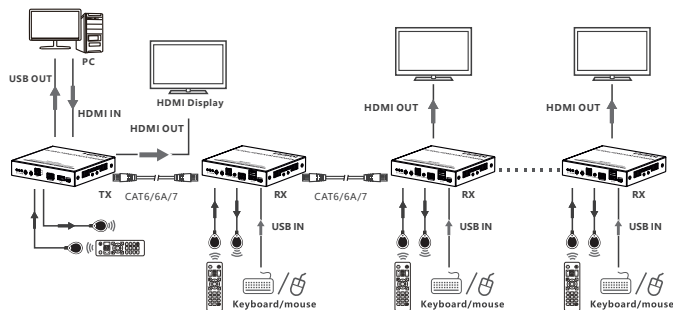
1.1 One-to-one connection
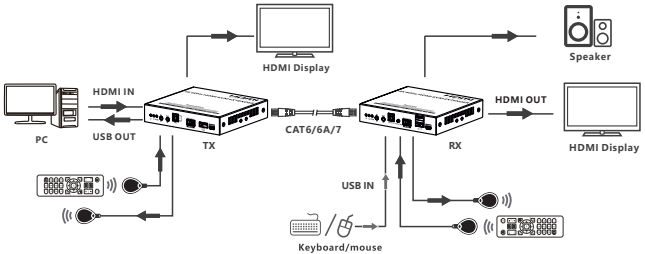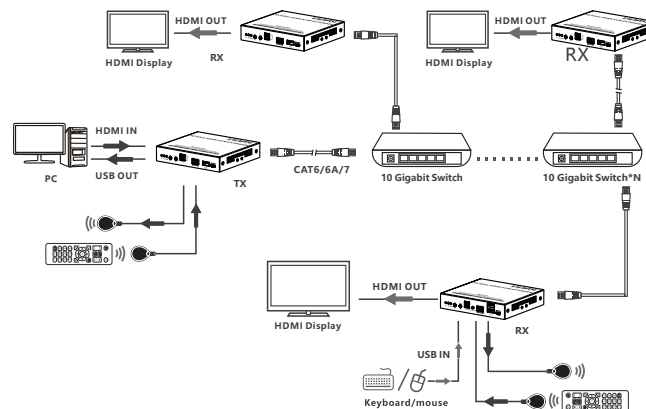
1.2 One-to-many connection：

1.2.1 through 10 gigabit switch
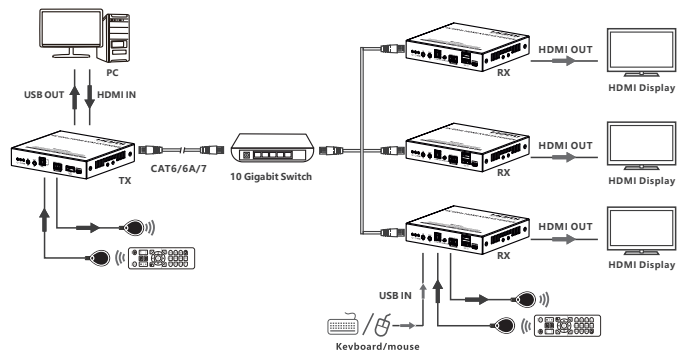
1.2.2 Cascading of multiple receivers


1.3 Switches cascading：

Note: Please use 10 Gigabit network switches for one-to-many connections and 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 the connection is one-to-one, connect the RJ45 port of the transmitter and receiver with a Cat6/6A/7 cable. If the connection is one-to-many, utilize the 10 gigabit switch as a bridge to connect the transmitter and receivers via Cat6/6A/7 cables, or Transmitter and multiple receivers are cascaded via Cat6/6A/7 cables.

3) If using HDMI loop out, connect the display device to the HDMI OUT port of the transmitter.

4) If using IR passthrough, insert the IR blaster extension cable into IR OUT and the IR receiver extension cable into IR IN.

5) If using HDMI ARC, press the ARC button first, then connect the S/ PDIF port (ARC) of the transmitter to the speaker with digital optical audio cable; If you need additional source audio from the receiver, connect the S/PDIF OUT port of the receiver to the audio device with digital optical audio cable.

6) If using RS-232 control, insert the terminal block in the RS-232 port of the transmitter or receiver, and then connect it to the computer.

7) If using the KVM function, connect the keyboard/mouse to the USB port of the receiver and connect the computer to the USB port of the transmitter via the USB cable.

8) Plug the power supply into the devices to get started.

3. IR Control
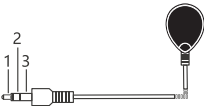
IR blaster
1. Power
2. IR Signal
3. Null
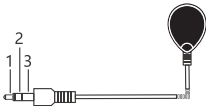
IR receiver
1. Power
2. IR Signal
3. Grounding

1) The IR blaster extension cable should be plugged into the IR OUT port of the transmitter or receiver, while the IR receiver extension cable should be plugged into 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 signal input area of the source device.

3) Point the remote control at the receiving head of the IR receiver extension cable to operate.

4. RS-232 Control

If using the RS-232 control, insert the terminal block(s) into the serial port(s) and connect it to an external device. The three pins are GND, TXD, RXD. It can passthrough RS-232 commands 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	BAA51100001133
Device restart	BAA51000001030
CEC on	BAA5150100011758
CEC off	BAA5150100001657
ARC on	BA A5 16 01 00 01 18 5C
ARC off	BA A5 16 01 00 00 17 5B
Check CEC status	BAA5150000153F Recv:(CEC_ON) BAA5150100011758 Recv:(CEC_OFF) BAA5150100001657
Set device baud rate	Set the baud rate to 2400 BAA513040000000960800F
	Set the baud rate to 4800 BAA5130400000012C0E981
	Set the baud rate to 9600 BAA513040000002580BC67
	Set the baud rate to 19200 BAA513040000004B006233
	Set the baud rate to 38400 BAA513040000009600ADC9

Set device baud rate	Set the baud rate to 57600 BAA51304000000E100F85F
	Set the baud rate to 115200 BAA51304000001C200DA24
	Set the baud rate to 230400 BAA5130400000384009EAE

Note:

If the RS-232 control instruction successful, 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 equipments are powered on and the networking cable is connected properly.
  2) Replace an altrenative networking cable for connection.

Q：Why 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 is "Search ipcolor Tx..." always displayed on the screen?

A：The Transmitter and receiver are not connected or connected but there is no data transmission. For solution, please refer to the answers to the above two questions.

Q：Why is the output image unstable?

A：
  1) Check that the length of the networking cable is within 80 meters from TX to RX.
  2) The length of HDMI cable is recommended to be ≤ 5 meters.
  3) Press the "reset" button on TX and RX to restart and reconnect.

Q：Why is there no response when I connect other USB devices to the RX?

A：It supports USB 1.1 and USB 1.0 devices, but not USB 2.0 or USB 3.0.

Q：Why the HDMI ARC is not working?

A：
 1) Please check whether the HDMI port connected to the receiver supports ARC.
 2) Please make sure that the HDMI ARC of the TV is turned on.
 3) Press the ARC button on the receiver to activate ARC.

• Technical Parameters

Item	Transmitter	Receiver
Video		
Input interface	1x HDMI	1x RJ45
Output interface	1x HDMI 1x RJ45	1x HDMI 1x RJ45
HDMI length	≤5m	≤5m
Maximum transfer rate	18Gbps	
Compatibility	HDMI 2.0 (Deep color, 4K, HDR10, YUV4:4:4, dolby vision)	
	HDCP1.4/HDCP 2.2	
Transmission distance	CAT6/6A/7≤80m	
Transmission latency	≤8ms	
Connection types	One-to-one connection One-to-many connection Switch cascading	
Resolutions	4096x2160@24/25/30/50Hz, 3840x2160@24/25/30/50/60Hz, 1080p@24/25/50/60Hz, 720p@50/60Hz, 1024x768, 1280x768, 1280x800, 1280x960, 1280x1024, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1080, 1920x1200, 2560x1080@60Hz, 2560x1440@60Hz, 3440x1440@60Hz	
Audio Signal		
Input interface	1xHDMI	N/A
Output interface	1x HDMI ARC 1x S/PDIF ARC	1x HDMI 1x S/PDIF
HDMI output	LPCM7.1CH/ DTS - HD/ DTS -Audio/Dolby Digital plus/ Dolby True HD 7.1CH/ Dolby Digital 7.1CH/ Dolby Atmos	
S/PDIF output (ARC)	LPCM 2.1CH/DTS-Audio/Dolby Digital 5.1CH	
Audio sampling rate	32KHz, 44.1KHz, 48KHz, 88KHz, 96KHz, 176KHz, 192KHz	

Audio bit depth	16bit, 24bit	
Command Signal		
IR interface	1x 3.5mm IR IN 1x 3.5mm IR OUT	1x 3.5mm IR IN 1x 3.5mm IR OUT
Receiving range	≤5m	
Infrared frequency	20kHz~60kHz	
CEC/ARC	Supported	
RS-232 (GND/RxD/TxD)	Default baud rate: 115200 Supported: 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400	
USB version	USB1.1, compatible with USB1.0	
Power		
Power Port	1x DC5V	
Power Supply	DC5V/3A	DC5V/3A
Power Consumption	< 7.5W	< 12W
Operating Environment		
Working temperature	-20℃~50℃	
Storage temperature	-30℃~70℃	
Humidity	0~90%RH (no condensation)	
Physical Properties		
Housing	Iron	
Weight	TX: 480g	RX: 477g
Color	Black	
Dimensions	125.00(L)*115.00(W)*25.00(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