

**H24015英文说明书AH2: 0106010022269**

**材质: 157g 铜版纸**

**尺寸: 100x138mm**

**装订方式: 骑马钉**

## 4K@60Hz 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.



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. 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. Place the device in a well-ventilated area, do not block any ventilation openings.
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. Do not place the device on an uneven or unstable surface. The device may fall resulting in a malfunction.
6. Never insert anything metallic into the open parts of this device. This may cause a danger of electric shock.
7. The device should be repaired only by a qualified technician.
8. If a third-party power supply is used, please ensure that the power supply specifications meet the product requirements.

- **Introduction**

This is an HDMI over IP KVM extender kit. With this device, UHD HDMI signals can be transmitted at high definition and ultra low latency over 120 meters of Cat6/6A/7 cable at 4K@60Hz 4:4:4 HDR resolution. It supports point-to-point connection or one-to-many connection through gigabit switch, and cascading of switches is also supported. This HDMI extender kit has features including HDMI loop out, KVM, and audio extraction through S/PDIF output on the receiver. This extender kit is a reliable UHD video transmission and distribution solution which can be widely used in security monitoring, rail transit, broadcasting, smart cities, conference and other fields.

## • Features

1. Built on ipcolor IMAGE technology to deliver visually-lossless AV signals across long distances with ultra-low latency.
2. Extends 4K@60Hz(4090x2160@60Hz) HDR HDMI signal up to 120m over by Cat6/6a/7 cable.
3. Supports one-to-many connection through the gigabit switch.
4. Supports KVM function.
5. The transmitter supports HDMI loop out.
6. The receiver can output the source audio additionally through the S/PDIF port.
7. Supports firmware upgrade via micro USB.
8. Lightning protection, surge protection, ESD protection.
9. Working 24/7.

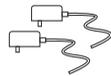
## • Package Contents



Transmitter x1



Receiver x1



DC5V/2A x2



User manual x1



USB cable x1



Mounting ear x4



Screw x10

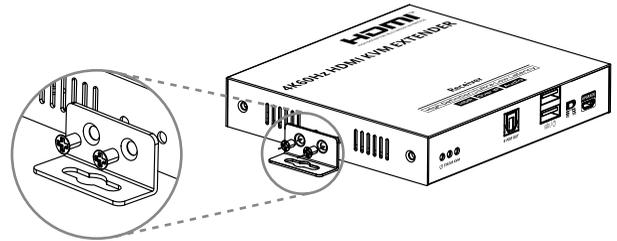


Grounding Screw x2

## • Installation Requirements

Item	Description	Requirement
Signal source device	PC, DVD, NVR, etc. with HDMI port	HDMI cable $\leq$ 5m
Cable	CAT6/6A/7, following standard IEEE-568B	CAT6/6A/7 $\leq$ 120m
Display device	TV, projector, LED screen, etc. with HDMI port	HDMI cable $\leq$ 5m
Network switch	The switch(es) is required for one-to-many and switch cascading connections	Gigabit switch

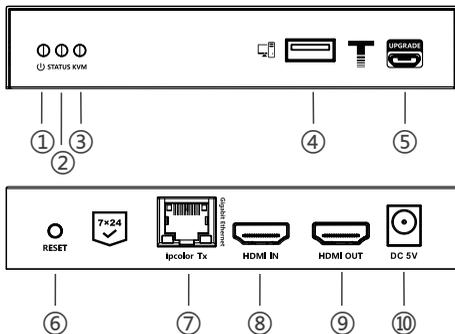
## • Wall Mounting



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

## Panel Description

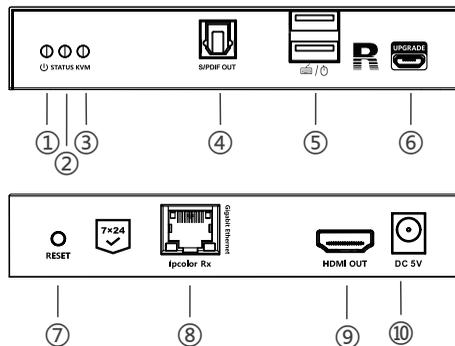
### 1. Transmitter



①	Power indicator	The indicator will turn blue when the power is turned on
②	Status indicator	<p><b>Light off:</b> The transmitter and the receiver have not established a connection</p> <p><b>Slow flash</b> (every 1 second): The transmitter and the receiver are connected but no video data transmission</p> <p><b>Quick flash</b> (every 200ms): The video signal is connecting</p> <p><b>Steady on:</b> The video data is transmitting</p>
③	KVM indicator	<p><b>Light off:</b> The computer and the USB port have not established a connection</p> <p><b>Steady on:</b> The computer and the USB port are connected</p> <p><b>Quick flash</b> (every 200ms): The KVM data is transmitting</p>
④	USB-A port	Connect to the computer with USB cable

⑤	Micro-USB port	Used for device firmware upgrade
⑥	Reset button	Press to restart
⑦	RJ45 port	Connect with CAT6/6A/7 network cable
⑧	HDMI input	Connect with HDMI source device with HDMI cable
⑨	HDMI loop out	Connect with local HDMI display device with HDMI cable
⑩	Power input	Connect with DC 5V/2A power adapter

### 2. Receiver

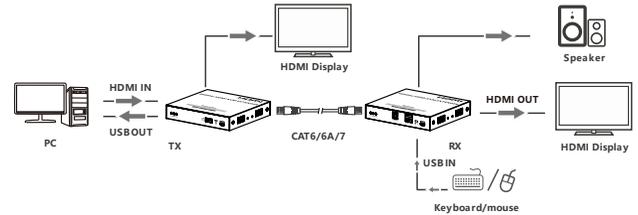


①	Power indicator	The indicator will turn blue when the power is turned on
②	Status indicator	<b>Light off:</b> The transmitter and the receiver have not established a connection <b>Slow flash</b> (every 1 second): The transmitter and the receiver are connected but no video data transmission <b>Quick flash</b> (every 200ms): The video signal is connecting <b>Steady on:</b> The video data is transmitting
③	KVM indicator	<b>Light off:</b> The keyboard/mouse and the USB port have not established a connection <b>Steady on:</b> The keyboard/mouse and the USB port are connected <b>Quick flash</b> (every 200ms): The KVM data is transmitting
④	S/PDIF port	Output the digital audio
⑤	USB-A port	Connect with the keyboard and mouse
⑥	Micro-USB port	Used for device firmware upgrade
⑦	Reset button	Press to restart
⑧	RJ45 port	Connect with CAT6/6A/7 network cable
⑨	HDMI output	Connect with HDMI display device
⑩	Power input	Connect with DC 5V/2A power adapter

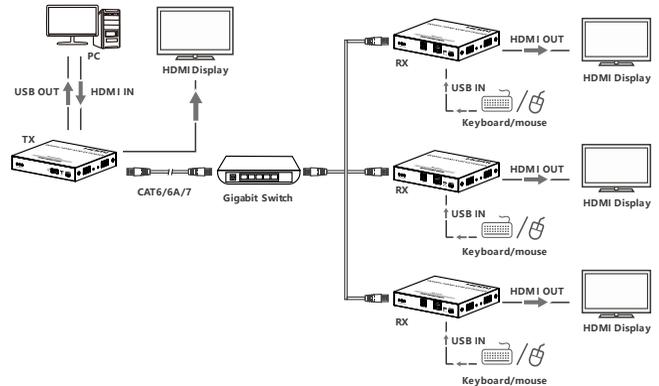
## • Installation Procedures

### 1. Connection Diagrams

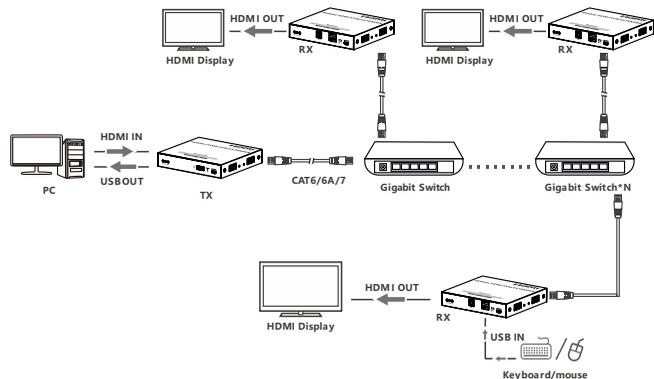
#### 1.1 One-to-one connection



#### 1.2 One-to-many connection



### 1.3 Switch cascading



**Note:** Please use 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 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 HDMI OUT port of the transmitter.

4) 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.

5) 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.

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

## • 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 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 whether the length of the network cable connected from TX to RX is within 120 meters.
  - 2) The length of HDMI cable is recommended to be  $\leq 5$  meters.
  - 3) Press the "reset" button on TX and RX panels 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.

## • Technical Parameters

Item	Transmitter	Receiver
<b>Video</b>		
<b>Input interface</b>	1x HDMI	1x RJ45
<b>Output interface</b>	1x HDMI 1x RJ45	1x HDMI
<b>HDMI length</b>	$\leq 5$ m	$\leq 5$ m
<b>Maximum transfer rate</b>	18Gbps	
<b>Compatibility</b>	HDMI 2.0 (Deep color, 4K, HDR10, YUV444)	
	HDCP 1.4/HDCP 2.2	
<b>Resolutions</b>	4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1080p@24/25/50/60Hz, 720p@50/60Hz, 1024x768, 1280x768, 1280x800, 1280x960, 1280x1024, 1440x900, 1440x1050, 1600x900, 1680x1050, 1920x1080, 1920x1200	
<b>Connection types</b>	One-to-one connection One-to-many connection Switch cascading	
<b>Transmission distance</b>	CAT5/5e $\leq 80$ m CAT6/6A/7 $\leq 120$ m	
<b>Transmission latency</b>	$\leq 16$ ms	
<b>Audio</b>		
<b>Input interface</b>	1x HDMI	N/A
<b>Output interface</b>	1x HDMI	1x HDMI 1x S/PDIF
<b>HDMI Out</b>	LPCM2.1CH/DTS-Audio/Dolby Atmos Dolby Digital Plus	
<b>S/PDIF Out</b>	LPCM 2.1CH/DTS-Audio/Dolby Digital 5.1CH	
<b>Audio sampling rate</b>	44.1kHz, 48kHz, 88kHz, 96kHz, 176kHz, 192kHz	
<b>Audio bit depth</b>	16bit, 24bit	

<b>Command Signal</b>		
<b>USB version</b>	USB1.1, compatible with USB1.0	
<b>Power</b>		
<b>Power Supply</b>	DC 5V/2A	DC 5V/2A
<b>Power Consumption</b>	< 7.5W	< 7.5W
<b>Operating Environment</b>		
<b>Working temperature</b>	-20°C~50°C	
<b>Storage temperature</b>	-30°C~70°C	
<b>Humidity</b>	0~90% RH (no condensation)	
<b>Physical Properties</b>		
<b>Housing</b>	Iron	
<b>Weight</b>	364.0g	376.0g
<b>Color</b>	Black	
<b>Dimensions</b>	124.6 (L) x115.0 (W) x23 (H) mm	
<b>Protection</b>	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	