



# 4K 60Hz Wireless HDMI KVM Extender

## **EHW-210**



# User Manual

## Version 1.0

# Thank You for Purchasing This Product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

## Surge Protection Device Recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

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# 1. Introduction

This is a 4K 60Hz HDMI KVM wireless extender, including a transmitter and a receiver. Adopting ipcolor STREAM technology can realize high definition and low-latency transmission. Based on the 5G wireless frequency band, with stable anti-interference and safety performance. It supports up to 1-to-4 wireless transmission, and the transmission distance of 1-to-1 can reach 50 meters, effectively solving problems caused by complicated wiring. It's an ideal wireless video transmission solution for video conferences, home entertainment, multimedia education, etc.

## **Note:**

1. Transmission distances may vary depending on the environment.
2. Signals may be reduced or completely lost by solid structures such as walls, bricks, and glass.
3. The surrounding wireless signal may cause certain interference to the transmission, and the channel can be switched to reduce the interference.

# HDMI

## 2. Features

- ☪ Adopting ipcolor STREAM technology can realize high definition and low-latency transmission.
- ☪ Supports up to 4096x2160 60Hz resolution, backward compatible.
- ☪ It supports up to 1-to-4 wireless transmission, and the transmission distance up to 50 meters (line of sight, 1-to-1).
- ☪ The transmitter supports HDMI loop out.
- ☪ In case of multiple sets of products in the same area, support SSID pairing and channel switching to avoid interference.
- ☪ Supports IR passback.
- ☪ Supports 5G wireless frequency bands, strong anti-interference.
- ☪ Supports KVM control signal passback.
- ☪ Supports touch screen.
- ☪ Supports firmware upgrade via Micro USB port.
- ☪ Supports stable 24/7 operation.

## 3. Package Contents

- ☪ 1x Transmitter
- ☪ 1x Receiver
- ☪ 2x 5V 2A Power Adapters
- ☪ 1x IR Receiver Extension Cable
- ☪ 1x IR Blaster Extension Cable
- ☪ 4x Antennas
- ☪ 4x Mounting Ears
- ☪ 10x Screws
- ☪ 2x Grounding Screws
- ☪ 1x User Manual
- ☪ 1x USB Cable

## 4. Specifications

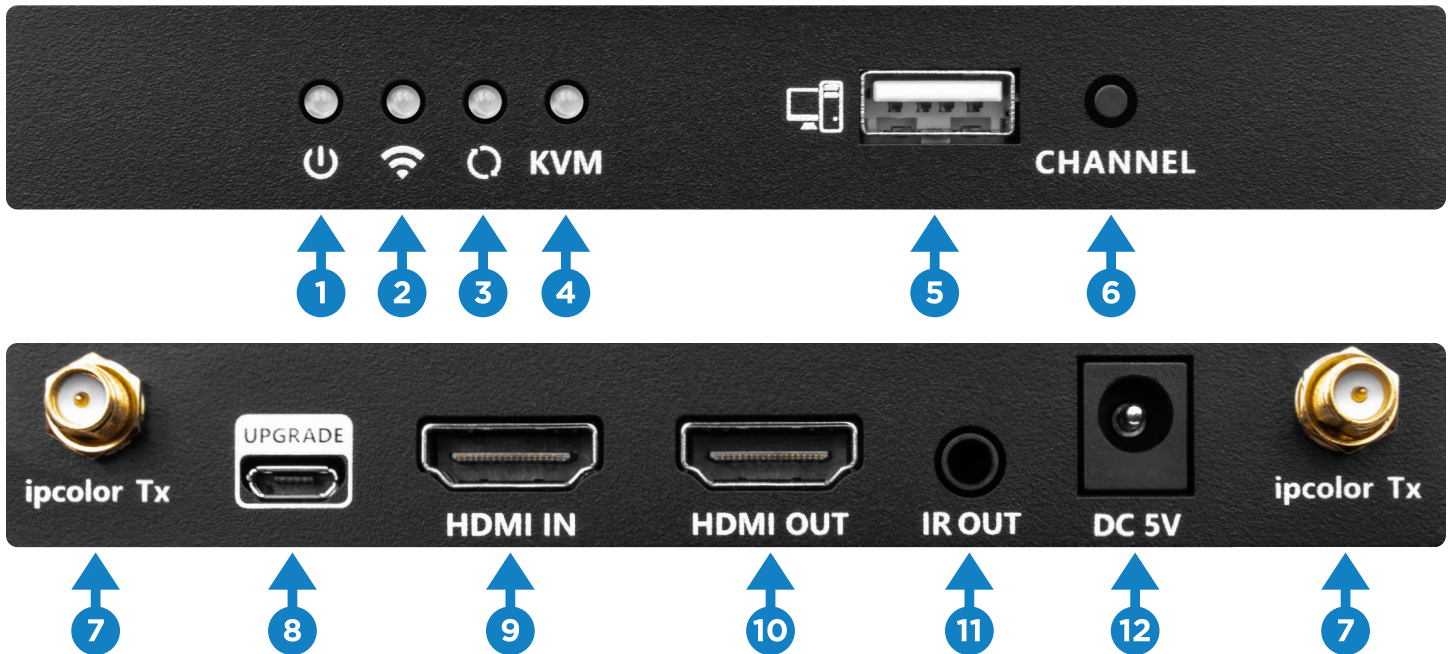
<b>Power Supply Voltage / Current</b> .....	DC 5V / 2A
<b>Power Supply Consumption</b> .....	TX ≤ 5W, RX ≤ 4W
<b>HDMI Version</b> .....	HDMI 2.0
<b>HDCP Version</b> .....	HDCP 1.4 / HDCP 2.2
<b>Max Transfer Rate</b> .....	18 Gbps
<b>Max Resolutions</b> .....	4K2K 60Hz, 4K 60Hz, 1080p 60Hz, 720p 60Hz, 1920x1200
<b>Input and Output TMDS Signal</b> .....	0.7~1.2Vp-p (TMDS)
<b>Input and Output DDC Signal</b> .....	5Vp-p (TTL)
<b>Wi-Fi Frequency Bands</b> .....	5.18~5.24 GHz
<b>Transmission Distance</b> .....	<b>1 to 1</b> ≤ 50m, <b>1 to 2</b> ≤ 30m, <b>1 to 3</b> ≤ 20m, <b>1 to 4</b> ≤ 15m
<b>Latency</b> .....	<b>4K 60Hz:</b> 120~180ms, <b>1080P 60Hz:</b> 70~120ms
<b>Connection Types</b> .....	<b>1 to 1, 1 to 2, 1 to 3, 1 to 4</b>
<b>SSID Pairing</b> .....	Supported
<b>ESD Protection Level</b>	
☉ 1a Contact discharge level 3	
☉ 1b Air discharge level 3	
☉ Standard: IEC61000-4-2	
☉ Lightning Protection	
☉ Surge Protection	
<b>Infrared Frequency</b> .....	20~60kHz
<b>IR Receiving Range</b> .....	≤ 5m
<b>Working Temperature</b> .....	-20~60°C
<b>Storage Temperature</b> .....	-30~70°C
<b>Humidity (No Condensation)</b> .....	0~90% RH
<b>Dimensions</b>	
☉ <b>TX (W x L x H):</b> 115 mm x 125 mm x 20.6 mm	
☉ <b>RX (W x L x H):</b> 115 mm x 125 mm x 20.6 mm	
<b>Color</b> .....	Black
<b>Material</b> .....	Iron
<b>Net Weight</b> .....	<b>TX:</b> 349g, <b>RX:</b> 326g

## 5. Installation Requirements

1. HDMI source device (DVD, game console, PC, etc.)
2. HDMI display device (TV, projector, LED screen, etc.)

## 6. Panel Description

### 6.1 Transmitter



**1. Power Indicator:** Indicator lights up when powered

#### 2. Wifi Indicator:

- ⊗ **Slow Flash:** Waiting for connection
- ⊗ **Steady On:** Connection succeeded
- ⊗ **Quick Flash:** SSID pairing mode

#### 3. Signal Indicator:

- ⊗ **Light Off:** No HDMI signal
- ⊗ **Steady On:** HDMI signal is transmitting
- ⊗ **Quick Flash:** Restore factory settings

#### 4. KVM Indicator:

- ⊗ **Light Flashing:** KVM data is transmitting
- ⊗ **Steady On:** Computer and USB port connected

**5. USB-A Port:** Connect to computer with USB cable

#### 6. Channel Switch Button:

- ⊗ Press to switch channels
- ⊗ Press Hold 5s for SSID pairing
- ⊗ Press Hold 10s to restore factory settings

#### 7. Antenna Connectors

**8. Micro USB Port:** For firmware upgrades

**9. HDMI IN:** Connect HDMI source device

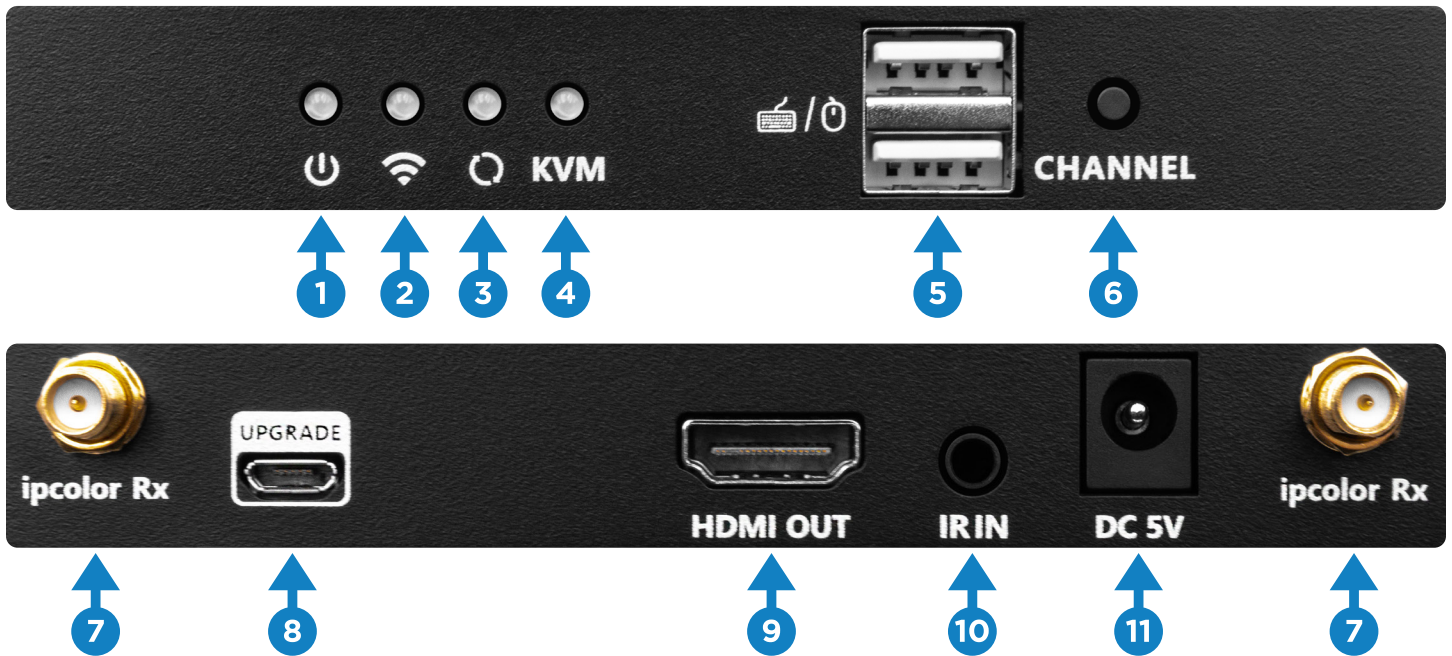
**10. HDMI OUT:** Connect HDMI display

**11. IR OUT:** Connect IR Blaster Cable

**12. Power IN:** Connect DC 5V / 2A Adapter

# 6. Panel Description

## 6.2 Receiver



**1. Power Indicator:** Indicator lights up when powered

### 2. Wifi Indicator:

- ⌚ **Slow Flash:** Waiting for connection
- ⌚ **Steady On:** Connection succeeded
- ⌚ **Quick Flash:** SSID pairing mode

### 3. Signal Indicator:

- ⌚ **Light Off:** No HDMI signal
- ⌚ **Steady On:** HDMI signal is transmitting
- ⌚ **Quick Flash:** Restore factory settings

### 4. KVM Indicator:

- ⌚ **Light Flashing:** KVM data is transmitting
- ⌚ **Steady On:** Mouse and keyboard are connected

**5. USB-A Ports:** Connect mouse and keyboard

### 6. Channel Switch Button:

- ⌚ Press to switch channels
- ⌚ Press Hold 5s for SSID pairing
- ⌚ Press Hold 10s to restore factory settings

### 7. Antenna Connectors

**8. Micro USB Port:** For firmware upgrades

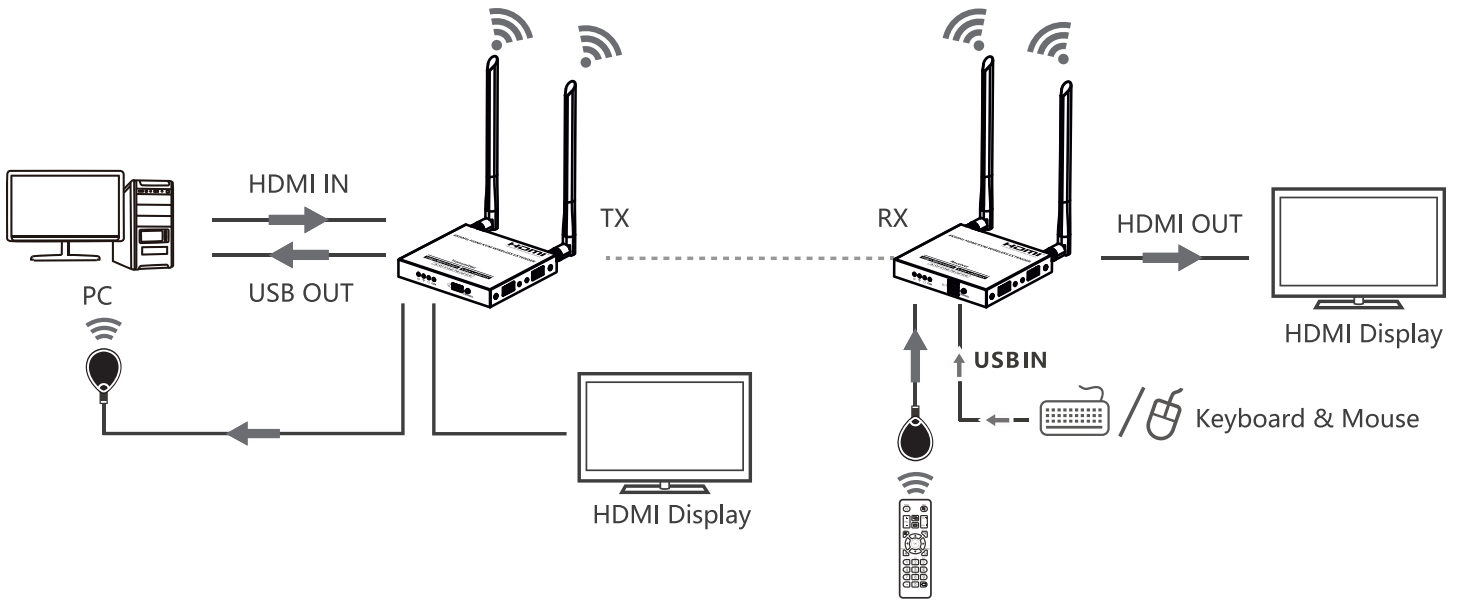
**9. HDMI OUT:** Connect HDMI display

**10. IR IN:** Connect IR Receiver Cable

**11. Power IN:** Connect DC 5V / 2A Adapter

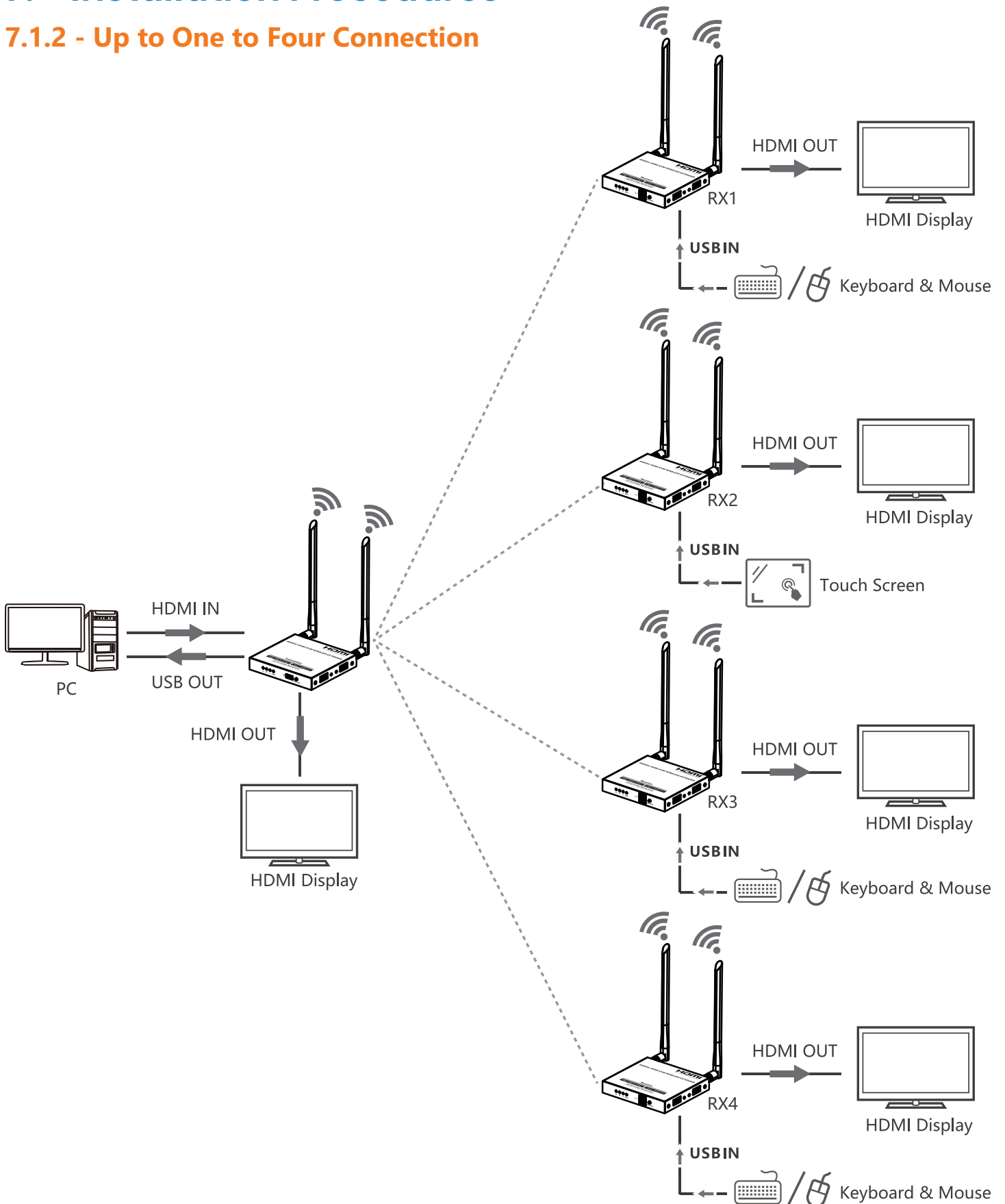
# 7. Installation Procedures

## 7.1.1 - One to One Connection



# 7. Installation Procedures

## 7.1.2 - Up to One to Four Connection



## 7. Installation Procedures

### 7.2 - 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 using the IR passback function, connect the IR blaster extension cable into the IR OUT port of the transmitter, and connect the IR receiver extension cable into the IR IN port of the receiver.
  - ☞ The emitter of the IR blaster extension cable should be as close as possible to the IR receiving window of the source device.
  - ☞ Point the remote control at the receiving head of the IR receiver extension cable to operate.
3. 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.
4. Plug the power supply into the devices to get started.
5. In the case of multiple sets being used at the same time in the same area. In order to prevent mutual interference, switch each set of transmitters and receivers to a different channel after they have been manually paired with the SSID.

## 7. Installation Procedures

### 7.3 - SSID Pairing

1. Enter the SSID pairing mode by holding the transmitter and receiver's channel switch buttons for five seconds. Both WiFi connection indicators will flash quickly.
2. Once all receivers have been successfully paired (the RX WiFi indicators has changed from a quick flash to a slow flash), short press the transmitter channel switch button to end the pairing, and the TX / RX WiFi indicators will flash slowly or steady on.

<b>NO.</b>	<b>Frequency</b>
Channel 1	5.180 GHz
Channel 2	5.200 GHz
Channel 3	5.220 GHz
Channel 4	5.240 GHz

## 8. FAQ

**Q:** Why can't the receiver and transmitter connect, with a "Search ipcolor Tx..." message on screen?

**A:** Try these troubleshooting steps...

- 1) Move transmitter and receiver closer to each other.
- 2) Power cycle the transmitter or receiver.
- 3) Re-pair the transmitter and receiver.

**Q:** Why is the Wi-Fi indicator steady on, but the display shows "Please check the TX input signal"?

**A:** Try these troubleshooting steps...

- 1) Make sure the TX has HDMI input and that the resolution is within the specified range.
- 2) Try to connect the signal source directly to the display device, or change the signal source and HDMI cable and test again.

**Q:** Why is the display stuttering or unstable?

**A:** Try these troubleshooting steps...

- 1) Place the transmitter or receiver within the signal coverage and minimize obstructions between the transmitter and receiver.
- 2) Switch to a different channel to avoid interference from other wireless signals.
- 3) Power cycle the transmitter or receiver.