A Step Ahead

User Manual

HDMI KVM EXTENDER OVER IP

HDMI KVM Extender over IP (300m) 1080P

Where every Moment comes Alive

ER2864KVMIP

HIGH-DEFINITION MULTIMEDIA INTERFACE

Introduction:

ER2864KVMIP HDMI KVM Extender over IP (300m) 1080P works on a TCP/IP network. It allows you to send high-definition video, audio, and USB (keyboard & mouse) signals up to 300 meters using just one CAT5e/6 network cable from your computer or DVD player.

It supports different connection types such as one-to-one, one-to-many, many-to-many, and cascade connections, making it flexible and easy to use for various setups.

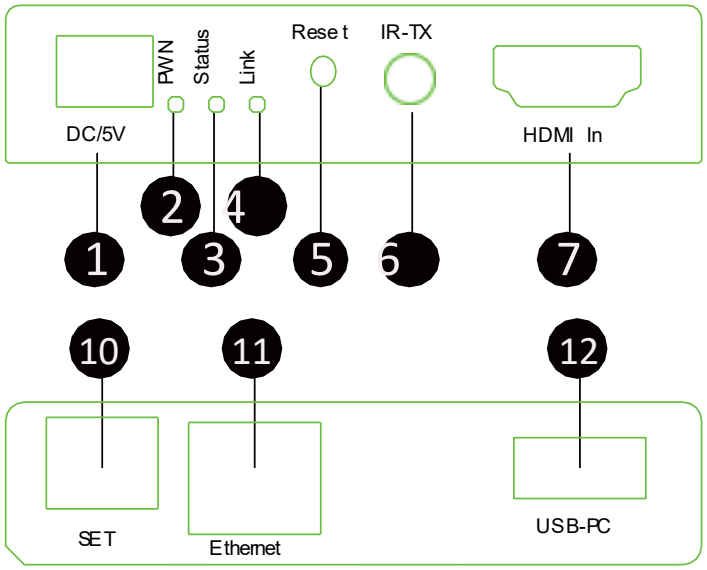
Features:

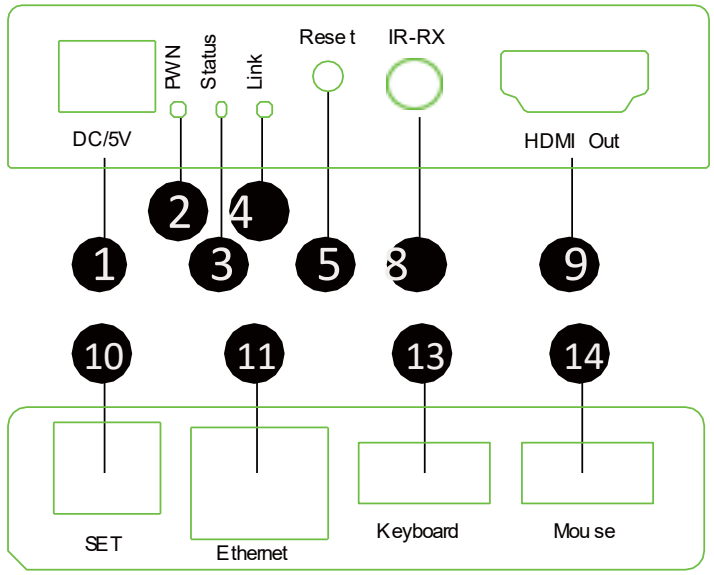
- Compatible with **HDCP 1.4** protected content
- Uses **MJPEG decoding** for smooth video transmission
- Supports **one-to-one, one-to-many, and cascade** connection setups
- Works on the **standard 802.3 Ethernet network**
- Allows control of devices using an **IR remote**
- Extends **USB keyboard and mouse** over the network
- **Pure hardware design** – just plug and play, no software installation needed

Specifications:

- **Supported resolutions:** 480p / 720p / 1080p
- **Audio sample rates:** 32 kHz, 44.1 kHz, 48 kHz
- **Power adapter: Input**: AC 100–240V, 50/60Hz; **Output**: DC 5V / 1A
- **Maximum working current: Transmitter (TX):** 450 mA; **Receiver (RX):** 450 mA
- **Product size (L × W × H):** 90 × 91 × 19 mm
- **Weight:** 121 g × 2 (TX + RX)
- **Operating Conditions:**
- **Temperature:** 0°C to 45°C
- **Humidity:** 10% to 80% RH (non-condensing)
- **Storage Conditions:**
- **Temperature:** –10°C to 70°C
- **Humidity:** 5% to 90% RH (non-condensing)

Physical Interface Diagram:





1 : DC/5V --- Power adapter port ;
2 : PWN --- Power indicator ;
3 : Status --- Status indicator ;
4 : Link --- Network connection indicator ;
5 : Reset --- restart key（Short press to restart, and long press ip address to restore factory settings ;
6 : IR-TX --- Connect IR transmitter;
7 : HDMI In --- connect HDMI signal source ;
8 : IR-RX --- Connect IR receiver;
9 : HDMI Out --- HDMI output, connect HDMI display device ;
10 : SET --- DIP switch setting ;
11 : Ethernet --- Network interface by cat5e/6 ;
12 : USB-PC --- USB output, connect computer;
13 : Keyboard --- USB input, keyboard input;
14 : Mouse --- USB input, mouse input;

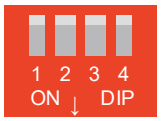
Basic Connection Steps:

1. Connect your HDMI source (DVD, PS3, set-top box, or computer) to the **HDMI IN** port of the **Transmitter (TX)** using an HDMI cable.
2. Connect the **HDMI OUT** port of the **Receiver (RX)** to your **TV/monitor** using an HDMI cable.
3. Connect the **TX and RX** using a **CAT5e/CAT6 network cable** (recommended). Maximum distance: **up to 300 meters**.
4. If you want **IR remote control**: Plug the **IR transmitter** into the **TX;** Plug the **IR receiver** into the **RX.** Point them toward the devices you want to control.
5. If you want **keyboard and mouse (KVM) control**: Plug the **USB keyboard and mouse** into the **RX;** Connect the **USB port of the TX** to your **computer**.
6. Connect the **5V power adapters** to both **TX and RX** and switch them on.
   Power light ON = device powered
   Status light blinking + link light ON = system working correctly.

Multi-Device Setup:

If using **multiple transmitters and receivers with a network switch** (one-to-many or many-to-many), pairing can be done by: **DIP switches**, or **Web browser settings**.

DIP Switch Settings:



DIP switcher from left to right, SW1 SW2 SW3 SW4.

1. Switch Position Meaning

- **ON = 0** (switch down)
- **OFF = 1** (switch up)

2. SW1 – Select Working Mode

- **SW1 = OFF → Point-to-Multi-Point mode:** (One transmitter → many receivers)
- **SW1 = ON → Multi-Point-to-Multi-Point mode:** (Many transmitters → many receivers)
- SW1 must be set **the same on both TX and RX**.

3. SW2, SW3, SW4 – IP Address Setting; these three switches decide the **last number of the IP address**.

Transmitter (TX): IP format: 192.168.1.200 – 207

SW2	SW3	SW4	TX IP
ON	ON	ON	192.168.1.200
ON	ON	OFF	192.168.1.201
ON	OFF	ON	192.168.1.202
ON	OFF	OFF	192.168.1.203
OFF	ON	ON	192.168.1.204
OFF	ON	OFF	192.168.1.205
OFF	OFF	ON	192.168.1.206
OFF	OFF	OFF	192.168.1.207

Receiver (RX): IP format: 192.168.1.208 – 215

SW2	SW3	SW4	RX IP
ON	ON	ON	192.168.1.208
ON	ON	OFF	192.168.1.209
ON	OFF	ON	192.168.1.210
ON	OFF	OFF	192.168.1.211
OFF	ON	ON	192.168.1.212
OFF	ON	OFF	192.168.1.213
OFF	OFF	ON	192.168.1.214
OFF	OFF	OFF	192.168.1.215

4. Mode-wise Setting Rules

- **Point-to-Multi-Point (1 TX → many RX)**
  SW1 = OFF on all devices
  TX SW2/3/4 → any setting
  Each RX must have **different SW2/3/4**
  Example:
  TX → 192.168.1.200
  RX1 → 192.168.1.208
  RX2 → 192.168.1.209
  RX3 → 192.168.1.210
- **Multi-Point-to-Multi-Point (Matrix Mode)**
  SW1 = ON on all devices
  TX and RX must have **exact same SW1–SW4** to pair
  Example:
  TX1 (SW1-4 = OFF,ON,ON,OFF) ⟷ RX1 (same)
  TX2 (different setting) ⟷ RX2 (same as TX2)

Important Notes

- Device **restarts automatically** after changing DIP switches
- DIP switch method supports **max 8 TX and 8 RX**
- For bigger systems, use **web configuration**
- RX IP shows on screen when LAN cable is unplugged

Web Setting Method:

Use web settings if you want to change **MAC address, gateway, multicast group, device name, pairing**, and other advanced options.

Step 1: Connect to the Same Network

- Connect the **TX, RX, and your PC** to the **same LAN/network switch**.
- Make sure your PC IP is in the same range.
  Example:
  PC IP: 192.168.1.216
  Subnet mask: 255.255.255.0
  Gateway: 192.168.1.1

Step 2: Find the Device IP

- The IP address depends on the **DIP switch setting**.
- When the RX is **not connected to a network cable**, its IP address will **appear on the display screen**.

Example RX IP: 192.168.1.215

Step 3: Open Web Setting Page

- Open any web browser (Chrome, Edge, etc.).
- In the address bar, type: Device IP : 9999

Example:
192.168.1.202:9999 (TX)
192.168.1.215:9999 (RX)
Press **Enter** to open the setup page.

Step 4: Change Required Settings

From the web page, you can set:

- Device name
- Gateway
- Multicast group
- Pairing
- Other advanced network parameters

Click **Save/Commit** after making changes.

Important Notes

- Once you save settings from the web page, **DIP switches will stop working**.
- All settings will now be controlled **only from the web page**.

Step 5: Restore DIP Switch Control (If Needed)

If you want to go back to DIP switch mode:

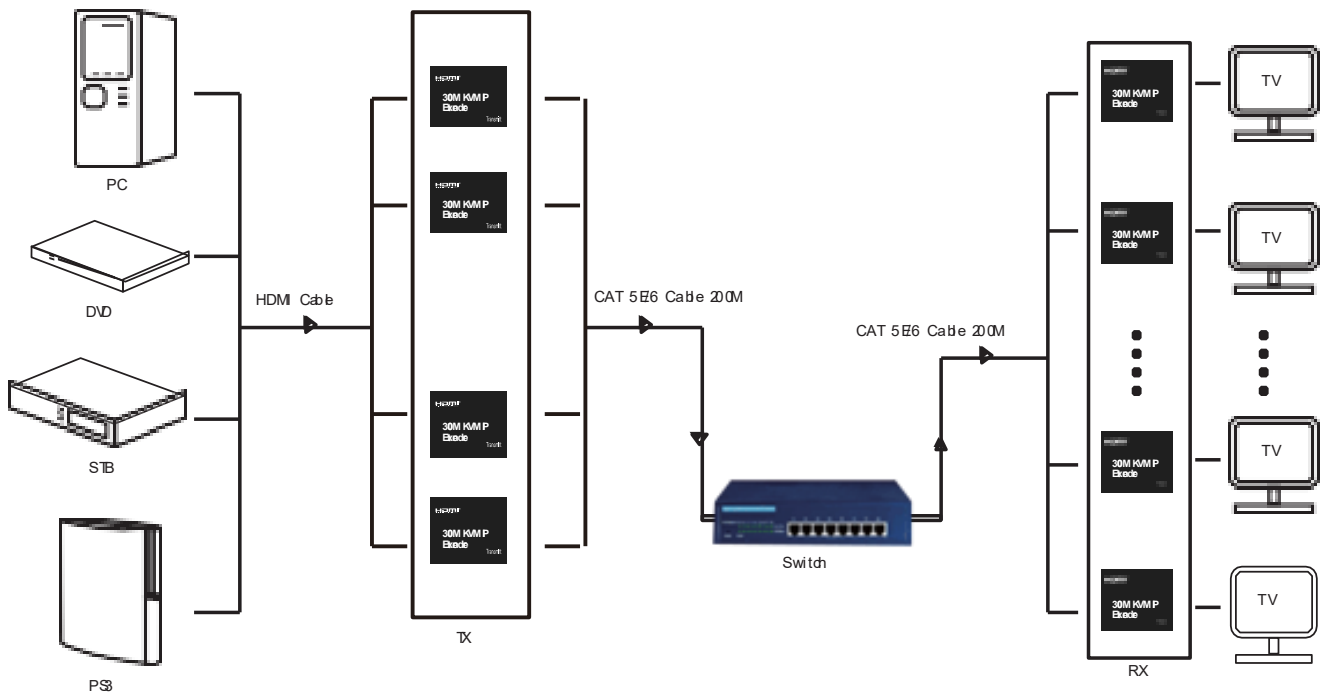
- Open the web page again
- Enter **888888** in the **Restore** field
- Click **Commit**
- The device will **factory reset and restart**

After this, **DIP switches will work again**.

MAC Address Information

The MAC address is **automatically created** the first time the device is powered ON.
It will **never change**, even after restarting.

Application diagrams: Multipoint to multipoint application



Note: The transmission distance through the switch is 200 meters before and after.

Application diagrams:

audio-visual conference

command and control center

home theater

The Package contents:

1. Transmitter	1PC	5. IR transmitter	1PC
2. Receiver	1PC	6. USB cable male to male	1PC
3. 5V Power adapter	2PCS	7. User's Manual	1PC
4. Narrowband infrared	1PC		