



# 4K 60HZ HDMI over IP Matrix Kit User Manual



04-1391A

P/N: CE-H28A11-S1

P/N: CE-H27F11-S1

P/N: CE-H27G11-S1

## **Safety and Notice**

The device has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the device should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit.
- Always unplug the power to the device before cleaning.



**ESD CAUTION**

## Features

- Supports resolution up to 4K2K@60 4:4:4 8bits
- Supports High Dynamic Range (HDR)
- HDCP 2.2 compliant
- Support PCM & Digital 7.1 channel sound
- Flexible and scalable UHD Video Broadcasting by Gigabit Ethernet LAN/Switch
- Support PoE (Power Over Ethernet)
- one to one, one to many & multi-casting broadcasting architecture
- Supports full frequency IR signal from 20KHz to 60KHz
- Bi-directional IR path
- Full Duplex RS-232 control up to 115,200 bps through connector
- Up to 1,023 Groups Multi-Casting
- Easy Dip Switch matching for multi-casting group configuration
- Supports Video Wall, ARC, audio embedded and KVM by addition Smart Controller. ( SKU CE-H25411-S1)
- Supports 90, 180 and 270 clockwise image rotation
- Supports USB flash driver (USBolP) and keyboard/mouse (KMoIP)
- Supports USB webcam and USB audio device over IP (HW-USBolP)

## Notes

- Due to the video compression, some distortion in terms of visual perception may happen in HDR mode.
- The rotation function ONLY supports on video wall mode
- For KMoIP function,
  - a. the TX channel ID must set between 0001 to 0008  
(Total quantity of TX devices support up to 8 units
  - b. the RX channel ID must set to ID=0 [↑-↑-↑-↑-↑]  
the hotkey switching TX must click three times.
  - c. ex. click "5 key" on the numeric keypad three times  
to switch to ID=0005(TX)
- For HW-USBoIP function,
  - a. do not attach devices other than USB webcam and  
USB audio device
  - b. the Rx's webcam and video signal must always  
from the same Tx

## Package contents

- **CE-H28A11-S1**

1. 4K 60HZ HDMI over IP Matrix Transmitter
2. 4K 60HZ HDMI over IP Matrix Receiver
3. Power adapter DC 5V/2A x2
4. IR blaster extension cable
5. IR Receiver extension cable
6. User Manual

- **CE-H27F11-S1**

1. 4K 60HZ HDMI over IP Matrix Transmitter
2. IR blaster extension cable
3. Power adapter DC 5V/2A
4. User Manual

- **CE-H27G11-S1**

1. 4K 60HZ HDMI over IP Matrix Receiver
2. Power adapter DC 5V/2A
3. IR Receiver extension cable
4. User Manual

# Layout

TX



1. **Power LED indicator:**  
[Blink] When unit connect a power supply unit  
[Shine] After booting, when device become stably
2. **Link LED indicator:**  
[Blink] When unit connect a Cat 5e/6 cable  
[Shine] When transmitting unit connect to a HDMI source and linked to the receiving unit
3. **Info LED indicator:** When user click the LED button from software, the LED light will blink 30 seconds.
4. **IR Out (Blaster):** for IR blaster extension cable
5. **IR In (Receiver):** for IR receiver extension cable
6. **USB Host:** Connect to USB host, USB 2.0 speed ( WebCam function)
7. **Dip Switch:** Video channel selection
8. **RJ-45:** Gigabit Ethernet port, support PoE function
9. **Power Jack:** Connect to DC 5V/2A power supply
10. **S/PIDF out:** need enabled by controller CE-H25411-S1
11. **Audio in:** need enabled by controller CE-H25411-S1
12. **Audio extract out:** Connect to speaker
13. **HDMI IN:** Connects to a HDMI source
14. **USB Host:** Connect to USB host, USB 2.0 speed (keyboard/mouse & flash driver function)
15. **RS-232:** Connect to serial port

RX



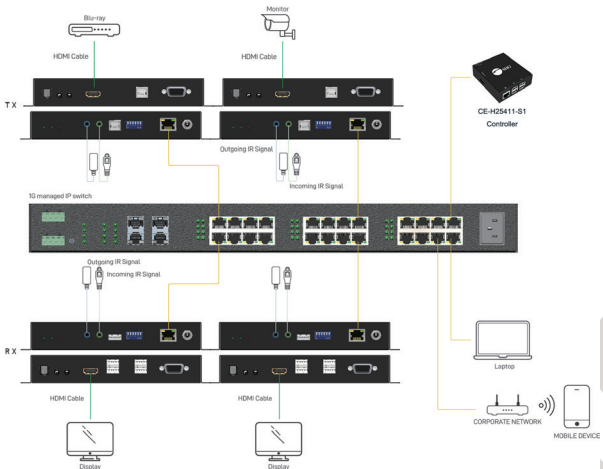
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4. **IR Out (Blaster):** for IR blaster extension cable
5. **IR In (Receiver):** for IR receiver extension cable
6. **USB:** Connect to WebCam, USB 2.0 speed
7. **Dip Switch:** Video channel selection
8. **RJ-45:** Gigabit Ethernet port, support PoE function
9. **Power Jack:** Connect to DC 5V/2A power supply
10. **S/PIDF in:** need enabled by controller CE-H25411-S1
11. **Audio in:** need enabled by controller CE-H25411-S1
12. **Audio extract out:** Connect to speaker
13. **HDMI Out:** Connects to a HDMI display
14. **USB:** Connect to keyboard/mouse, USB 1.1 speed
15. **USB:** Connect to flash driver, USB 2.0 speed
16. **RS-232:** Connect to serial port

# TX & RX RS-232 DIP switch



1. Dip Switch: RS-232 mode selection  
[ON] debug mode; [OFF] bypass mode

## Application





## TX & RX Group dip Switch

For ID=1~63, please refer the table below to set up (Hardware control)

For ID=64~1023, please adjust the DIP switch to ID=0, and the real ID can be decided by the external controller software

ID	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
0	↑	↑	↑	↑	↑	↑
1	↓	↑	↑	↑	↑	↑
2	↑	↓	↑	↑	↑	↑
3	↓	↓	↑	↑	↑	↑
4	↑	↑	↓	↑	↑	↑
5	↓	↑	↑	↓	↑	↑
6	↑	↓	↓	↑	↑	↑
7	↓	↓	↓	↑	↑	↑
8	↑	↑	↑	↓	↑	↑
9	↓	↑	↑	↓	↑	↑
10	↑	↓	↑	↓	↑	↑
11	↓	↓	↑	↓	↑	↑
12	↑	↑	↓	↓	↑	↑
13	↓	↑	↓	↓	↑	↑
14	↑	↓	↓	↓	↑	↑
15	↓	↓	↓	↓	↑	↑
16	↑	↑	↑	↑	↓	↑
17	↓	↑	↑	↑	↓	↑
18	↑	↓	↑	↑	↓	↑
19	↓	↓	↑	↑	↓	↑
20	↑	↑	↓	↑	↓	↑
21	↓	↑	↓	↑	↓	↑
22	↑	↓	↓	↑	↓	↑
23	↓	↓	↓	↑	↓	↑
24	↑	↑	↑	↓	↓	↑
25	↓	↑	↑	↓	↓	↑
26	↑	↓	↑	↓	↓	↑
27	↓	↓	↑	↓	↓	↑
28	↑	↑	↓	↓	↓	↑
29	↓	↑	↓	↓	↓	↑
30	↑	↓	↓	↓	↓	↑
31	↓	↓	↓	↓	↓	↑

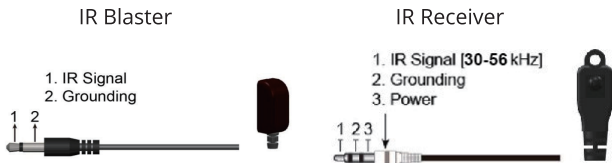
ID	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
32	↑	↑	↑	↑	↑	↓
33	↓	↑	↑	↑	↑	↓
34	↑	↓	↑	↑	↑	↓
35	↓	↓	↑	↑	↑	↓
36	↑	↑	↓	↑	↑	↓
37	↓	↑	↓	↑	↑	↓
38	↑	↓	↓	↑	↑	↓
39	↓	↓	↓	↑	↑	↓
40	↑	↑	↑	↓	↑	↓
41	↓	↑	↑	↓	↑	↓
42	↑	↓	↑	↓	↑	↓
43	↓	↓	↑	↓	↑	↓
44	↑	↑	↓	↓	↑	↓
45	↓	↑	↓	↓	↑	↓
46	↑	↓	↓	↓	↑	↓
47	↓	↓	↓	↓	↑	↓
48	↑	↑	↑	↑	↓	↓
49	↓	↑	↑	↑	↓	↓
50	↑	↓	↑	↑	↓	↓
51	↓	↓	↑	↑	↓	↓
52	↑	↑	↓	↑	↓	↓
53	↓	↑	↓	↑	↓	↓
54	↑	↓	↓	↑	↓	↓
55	↓	↓	↓	↑	↓	↓
56	↑	↑	↑	↓	↓	↓
57	↓	↑	↑	↓	↓	↓
58	↑	↓	↑	↓	↓	↓
59	↓	↓	↑	↓	↓	↓
60	↑	↑	↓	↓	↓	↓
61	↓	↑	↓	↓	↓	↓
62	↑	↓	↓	↓	↓	↓
63	↓	↓	↓	↓	↓	↓

## Network Switch Notes

1. The selected network switch must support the following:
  - Gigabit (or faster) Ethernet port
  - IGMP Snooping
  - IGMP v2 Snooping (multicast)
  - IGMP Querier
  - IGMP Snooping Fast Leave
  - Multicast forwarding or filtering
  - Jumbo frames up to 9KB (9000 bytes)
2. Configuring your switch properly will pass data more efficiently, please refer to the following settings:
  - Enable IGMP Snooping on Layer2 switches
  - Enable IGMP Querier on the Layer 3 switches
  - Enable IGMP Fast-Leave on all switches that have VE units connected directly to them
  - Enable the jumbo frame on switch to improve data transfer efficiency

## IR Blaster & Receiver cable

Incorrect placement of IR Blaster and Receiver may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets. Warranty will not cover the damage.



You can buy any IR extension cables in the market that are compatible to the definition of the IR sockets for the extender if necessary for replacement use. However, IR cables longer than 2m (6-ft) may not work.

**Dear Valued Customer**

**WE REALLY  
APPRECIATE  
YOUR PURCHASE**

***~thank you~***

### **Support**

For more info or tech support

**<http://www.siig.com/support>**

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