



4K 60HZ HDMI over IP Matrix Kit User Manual



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
- Easy Dip Switch matching for multi-casting group configuration
- 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
- Centralized control:
Controller box # CE-H25411-S2 (sold separately)
Software can be download from product download page
- Up to 1,023 Groups Multi-Casting
- Supports Video Wall
- Supports 90, 180 and 270 clockwise image rotation
- Supports USB flash drive (USBolP) and keyboard/mouse (KMolP)

Notes

- Centralized control via a controller box (CE-H25411-S2) or software is recommended to enable all features, such as Videowall and KVM.
- When a controller box or software control is used, set the PIN switches to all UP positions or ID 0. See page 9 for more information.
- 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.

Package contents

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

Software Download

Please go to SIIG website and search "CE-H28A11-S1" to find the product page, and then click "Downloads" page, then you can see the control software and control software instruction.

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:** Reserved
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:** Reserved
11. **Audio in:** Reserved
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



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
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6. **USB:** Reserved
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:** Reserved
11. **Audio in:** Reserved
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

Common supported resolutions

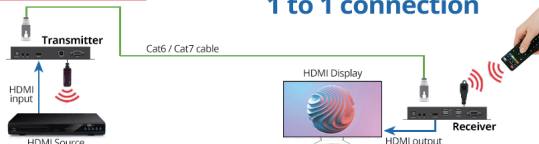
Depend on the different display or host, supported resolution may different, not all display or host can support all of these resolutions.

Resolution	Refresh rate
4096x2160	60 / 30 Hz
3840x2160	60 / 50 / 30 / 25 / 24 Hz
1080p	60 / 50 Hz
1080i	60 / 50 Hz
720p	60 / 50 Hz
480p	60 Hz
480i	60 Hz

Application

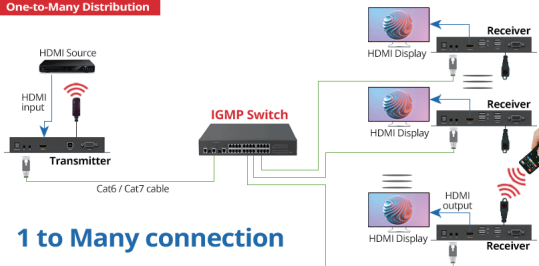
Point-to-point Extension

1 to 1 connection



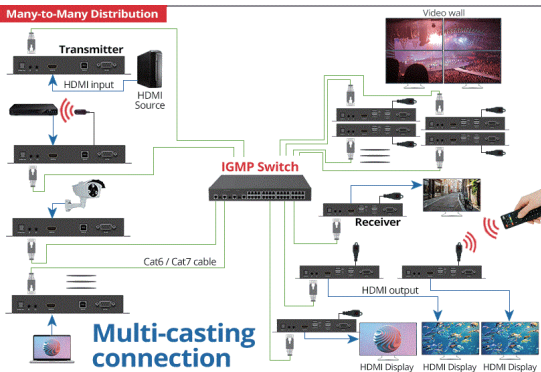
One-to-Many Distribution

1 to Many connection



Many-to-Many Distribution

Multi-casting connection



TX & RX Group DIP Switches

For hardware control between the TX's and RX's, set up each group by adjusting the DIP switches. Each group can only have one transmitter mapping to one or more receivers. You can assign up to 63 groups using IDs 1-63. Please see the table below.

For a centralized control via a control box or software, adjust the DIP switches to ID 0 (all UP) to all transmitters and receivers.

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	↓	↓	↑	↑	↓	↓
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59	↓	↓	↑	↓	↓	↓
60	↑	↑	↓	↓	↓	↓
61	↓	↑	↓	↓	↓	↓
62	↑	↓	↓	↓	↓	↓
63	↓	↓	↓	↓	↓	↓

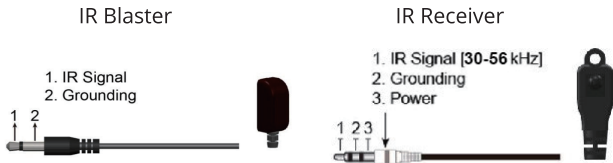
Network Switch Notes

1. Multicast
This product uses Multicast protocol to send video signals. This is a type of group communication in networking that allows one transmitter to send video signals to multiple receivers within a LAN.
 - Each video group can only have one transmitter, but can support multiple receivers.
 - A control box (CE-H25411-S2) or software control can be used and recommended to create and control group settings.
 - A control box (CE-H25411-S2) is sold separately. Software control can be downloaded from SIIG website. See “Software Download” on page 4.
2. 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)

3. 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 Over IP Encoder/Decoder units connected directly to them
 - Enable the jumbo frame to 9000 or more 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.

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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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