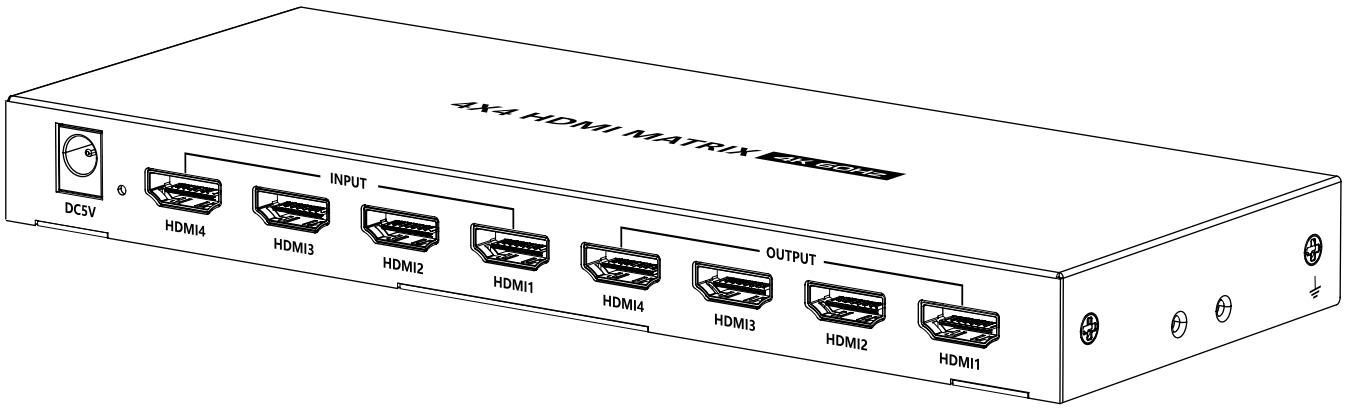
COMPANICS
Communication & Electronics LTD

כומפניקס תקשורת ואלקטרוניקה בע"מ
הבורסקאי 1 א.ת. סגולה, פ"ת | ספק מ. הביטחון: 83524121 | ח.פ: 512109968
03-9049004 / טל' | www.companics.co.il | sales@companics.co.il

Model Number 18132
4x4 HDMI2.0 Matrix Switch 4096x2160@60Hz

User Manual

4x4 HDMI Matrix Switch



HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

- ## Important Safety Instructions

1. To prevent electric shock, please ensure that all apparatus is properly grounded.
2. Do not place this apparatus 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 apparatus to rain or place it near water. Any liquid that goes into the apparatus 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 apparatus. This may cause a danger of electric shock.
7. If a three-party power supply is used, please ensure that the power supply specifications meet the product requirements.

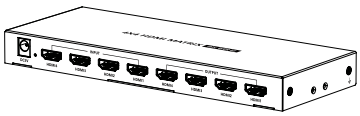
- ## Introduction

This is a 4 in 4 out HDMI matrix switch, it can switch 4 HDMI input signals to 4 HDMI displays as needed. It supports up to 4096x2160@60Hz HDR UHD resolution, and a variety of switching methods (IR remote control, buttons and RS232) flexibly match input and output devices; Any two of the four HDMI outputs support Auto Down-scaling. This unit is a reliable, ultra-high-definition video transmission solution, which is widely used in security monitoring, education and training, exhibition and broadcasting, command center and other scenarios.

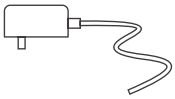
- **Features**

1. Support 4 HDMI input signals and 4 HDMI output signals.
2. Support up to 4096x2160@60Hz resolution and is backward compatible.
3. Support HDR10.
4. Support multiple switching mode: IR remote control, buttons, RS232.
5. Support setting the EDID of the product.
6. Any two of the four HDMI outputs support Auto Down-scaling.
7. Lightning protection, surge protection, ESD protection.

- **Package Contents**



Matrix Switch x1



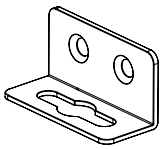
Power Adapter 5V/1A x1



User Manual x1



Remote Control x1



Mounting Ear x2



Screw x6



Grounding Screw x2

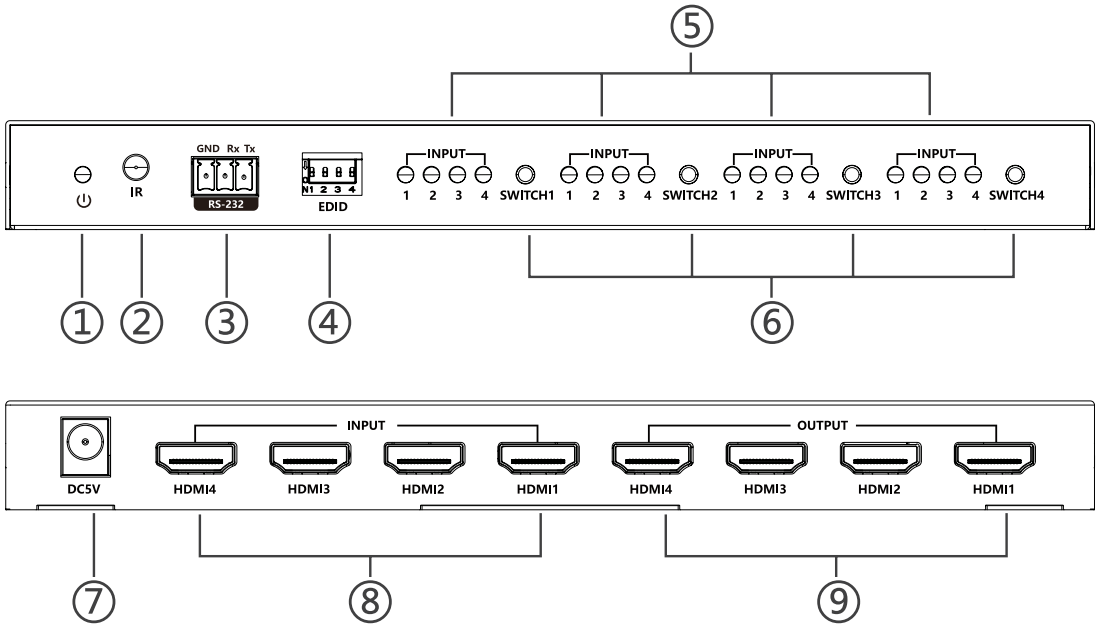


Terminal block x1

• Installation Requirements

1. Source device: signal source with HDMI output interface, such as PS4, TV box, PC, etc.
2. Display device: 4K or 1080P display device with HDMI input interface, such as TV, projector.

• Panel Description



①	Power indicator	When there is power, the indicator will light solid yellow
②	IR receiving window	Receive IR signal
③	RS-232	Used for RS-232 command control
④	EDID DIP	Switch output display resolution
⑤	HDMI input indicator 1,2,3,4	Corresponding to HDMI input 1,2,3,4 respectively
⑥	HDMI output Switch 1,2,3,4	Control the switch of HDMI output 1,2,3,4 respectively

⑦	DC5V	Connect with DC5V/1A power adapter
⑧	HDMI input 1,2,3,4	Connect with HDMI source device
⑨	HDMI output 1,2,3,4	Connect with HDMI display device

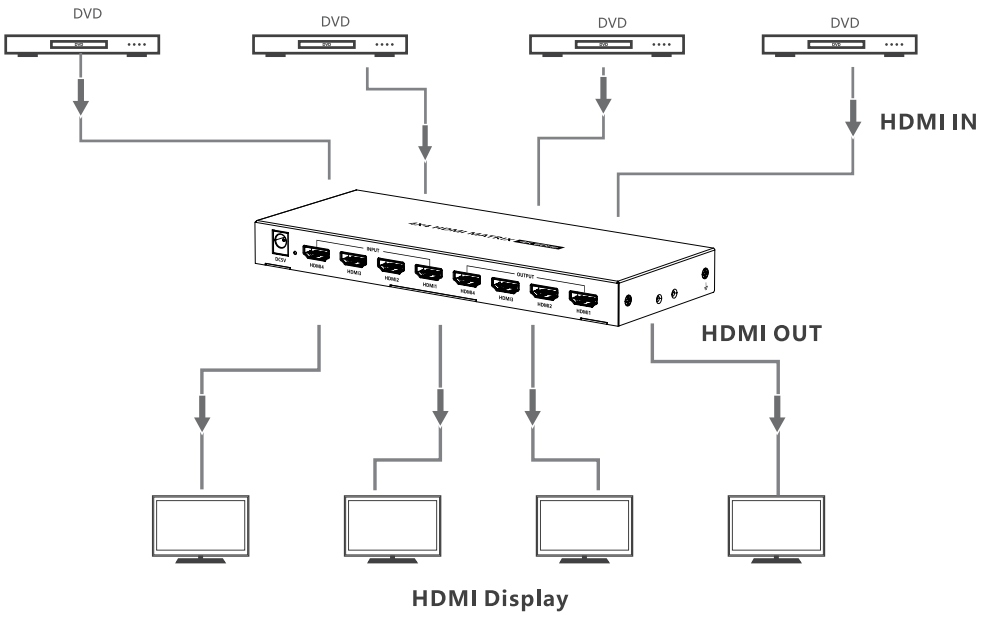
Remote Control

This remote control is just used for inputs or outputs switched.



- **Installation Procedures**

1. Connection Diagrams



2. Connection Instructions

1) Connect the source devices to the HDMI input ports with HDMI cables.
2) Connect the display devices to the HDMI output ports with HDMI cables.
3) Power on the devices to get started.

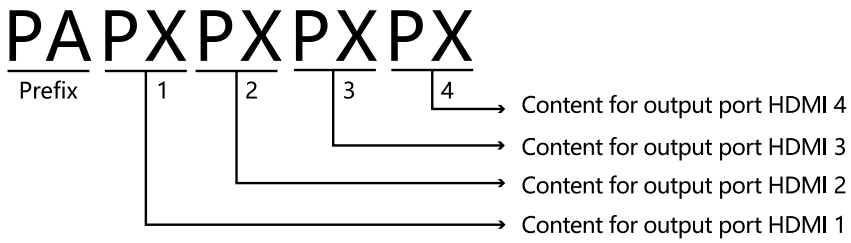
3. RS-232 control

Baud rate: 9600

Data bits: 8

stop character: 1

Parity: none

<table>
<tr><td rowspan="6">Operation mode one</td><td>/</td><td>HDMI1 input</td><td>HDMI2 input</td><td>HDMI3 input</td><td>HDMI4 input</td></tr>
<tr><td>HDMI1 output</td><td>PS11R</td><td>PS12R</td><td>PS13R</td><td>PS14R</td></tr>
<tr><td>HDMI2 output</td><td>PS21R</td><td>PS22R</td><td>PS23R</td><td>PS24R</td></tr>
<tr><td>HDMI3 output</td><td>PS31R</td><td>PS32R</td><td>PS33R</td><td>PS34R</td></tr>
<tr><td>HDMI4 output</td><td>PS41R</td><td>PS42R</td><td>PS43R</td><td>PS44R</td></tr>
<tr><td>HDMI1/2/ 3/4 output</td><td>PA1R</td><td>PA2R</td><td>PA3R</td><td>PA4R</td></tr>
<tr><td>Operation mode two</td><td colspan="5">

PAPXPXPXPX
PA is the command prefix, and the "X" of PX can be any number from 1 to 4. P1 represents HDMI 1 source content for output, P2 represents HDMI 2 source content for output, and so on to P4.
E.g. PAP3P1P4P2 represents:
Output port HDMI 1 outputs content from input port HDMI 3
Output port HDMI 2 outputs content from input port HDMI 1
Output port HDMI 3 outputs content from input port HDMI 4
Output port HDMI 4 outputs content from input port HDMI 2</td></tr>
<tr><td>Return value</td><td colspan="5">PAXXXR is the command to read the status of all interfaces; after sending the command, OKPXPXPXPX is displayed, where X is 1 to 4; if the command sent is incorrect, ERR appears.</td></tr>
</table>

Reset	Device restart
Recover	Restore device factory setting
BaudXX	Set baud rate value: 9600 (default), 19200

4. EDID settings

The product has 16 built-in EDID states, which can be set to switch the output resolution through the DIP switch. The DIP switch up means "1" and down means "0".

DIP switch status				Resolution information
1	2	3	4	
0	0	0	0	4K@60Hz 2CH
1	0	0	0	4K@60Hz 5.1CH
0	1	0	0	4K@60Hz 7.1CH
0	0	1	0	4K@60Hz HDR 7.1CH
0	0	0	1	4K@30Hz 2CH
1	1	0	0	4K@30Hz 5.1CH
1	0	1	0	4K@30Hz 7.1CH
1	0	0	1	4K@30Hz HDR 7.1CH
0	1	1	0	1080p@60Hz 2CH
0	1	0	1	1080p@60Hz 5.1CH
0	0	1	1	1080p@60Hz 7.1CH

1	1	1	0	1080i@60Hz 2CH
1	1	0	1	1080i@60Hz 5.1CH
1	0	1	1	1080i@60Hz 7.1CH
0	1	1	1	1080p@60Hz HDR 7.1CH
1	1	1	1	1) Read only the EDID that was first connected to the output 2) Connect 4 outputs at the same time, only read the EDID of HDMI 1 output

- **FAQ**

Q: No video or audio signal output on the displays?

A:

1) Please check and make sure the matrix switch is connected well and powered on.
2) Please check and make sure all HDMI cables are connected well.
3) Please check and make sure the input channel of displays are correct.

Q: Picture quality is not fluent and stable?

A:

1) Please check and make sure all HDMI cables are connected well.
2) Try to connect the source device to display device directly, or change to another source device for a try to see the picture quality.
3) Please use high quality HDMI standard cable when HDMI 4K signal input.

• Specification

Items	Description
HDMI version	HDMI2.0（HDR，YUV4:4:4)
	Compatible with HDCP2.2,HDCP1.4
HDMI interface	4 HDMI input, 4 HDMI output
Transmission rate	18Gbps
Bandwidth	600MHz
Resolution	480i@60Hz, 480p@60Hz, 576i@50Hz, 576p@50Hz, 720p@50/60Hz, 1080i@50/60Hz, 1080p@50/60Hz, 3840×2160@24/25/30/60Hz, 4096×2160@24/25/30/60Hz
Audio format	LPCM7.1/DTS-HD/DTS-Audio/Dolby Digital plus/ Dolby TrueHD 7.1/Dolby Digital 7.1CH/Dolby Atmos
RS-232	3 Pin(GND/Rx/Tx), Baud rate 9600
Voltage	DC5V/1A
Power consumption	＜4W
Working temperature	-20℃~60℃
Storage temperature	-30℃~70℃
Humidity	0~90%RH(No Condensation)
Housing	Iron
Color	Black
Weight	375g
Dimensions	210.0(L)*80.0(W)*21.0(H) mm
Protection	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

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