



# USER MANUAL

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## CLR-HDMI-M4420 V2.0 HDMI Matrix 4x4

*[www.clrnetworks.com](http://www.clrnetworks.com)*

## Introduction :

The 2.0 HDMI Matrix 4x4 can connect four HDMI signal sources with the four displays at the same time. It can easily and freely split or switch four HDMI signals on four displays or projectors which are compatible with HDMI signal. Extra infrared receiver extension, IR emitter, RS232 are supplied for remote control.

HDMI matrix 4x4 has the ability of equalization and amplification to ensure HDMI signal's transmission through long cable without quality loss. This HDMI matrix offers solutions for digital entertainment center, HDTV, retail and show site, HDTV, STB, DVD and projector factory, noise, space and security concerns, data center control, information distribution, conference rotation, school and corporate training environments.



## Features :

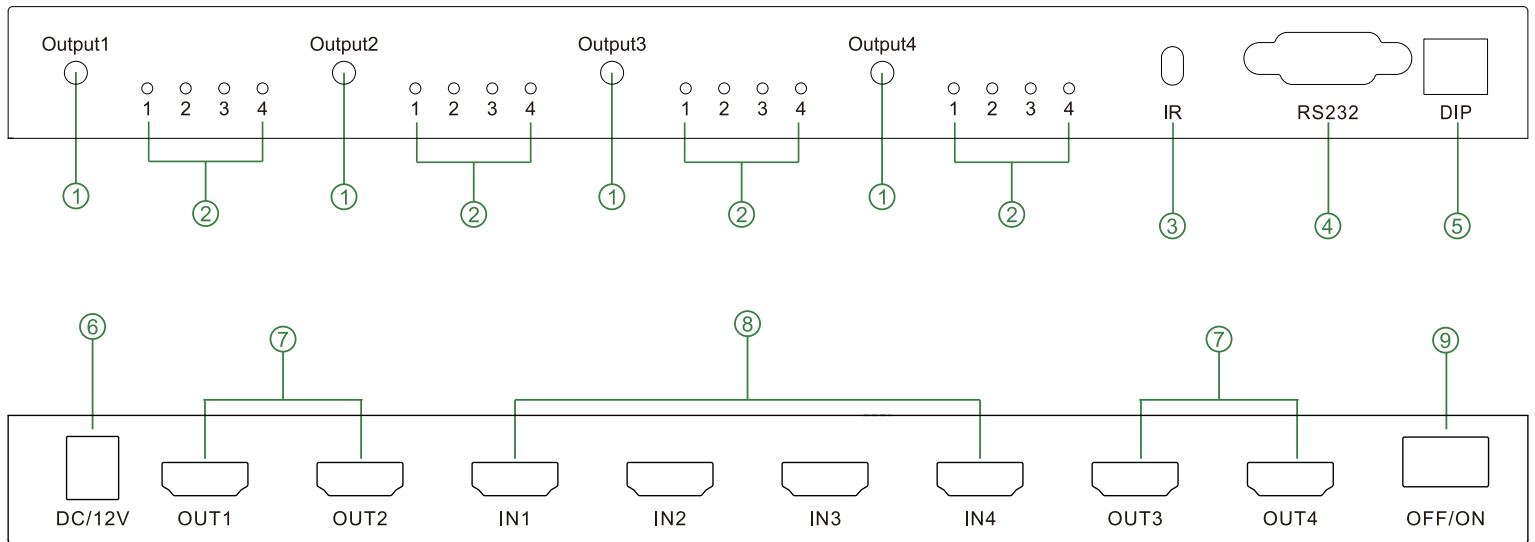
- \* Very compact structure
- \* Stable and reliable
- \* Economical and cost-effective
- \* Support 3D;
- \* Support IR Remote Control;
- \* Support RS232 Control;
- \* The four outputs could show the same or different source simultaneously;
- \* Support 4K (input) resolution 2K (output) (Downscaling);

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# Specifications :

HDMI version .....	HDMI 2.0/HDCP2.0
HDMI resolution .....	up to 4K/60Hz
Support video format .....	8/10/12 bit deep color
Support audio format .....	DTS-HD/Dolby-trueHD/LPCM7.1/DTS/Dolby-AC3/DSD
Max baud rate .....	18Gbps
Input cable distance .....	≤10m AWG24
Output cable distance .....	≤10m AWG24
HDMI Input .....	4
HDMI Output .....	4
Max working current .....	1.6A
Power adapter format .....	Input: AC (50HZ, 60HZ) 100V-240V; Output: DC12V/2A
Operating Temperature range .....	(-15 to +45℃)
Operating Humidity range .....	5 to 90%RH (No Condensation)
Dimension (L x W x H) .....	276x143x26 (mm)
Weight .....	720.5g

# Function Interface Figure:



- 1: Output selection
- 3: IR port
- 5: EDID
- 7: HDMI Output 1-4 port
- 9: Power switch

- 2: LED indicator of Input for each output selection
- 4: RS232 port
- 6: DC/12V
- 8: HDMI Input 1-4 port

## EDID setting

Position 1	Position 2	Position 3	Position 4	Function
0	0	0	0	3D 4K 60HZ HDR 2 CH
0	0	0	1	3D 4K 60HZ 7.1CH
0	0	1	0	3D 4K 30HZ 2CH
0	0	1	1	3D 4K 30HZ 7.1CH
0	1	0	0	2D 1080P stereo 2CH
0	1	0	1	2D 1080P 7.1 CH
0	1	1	0	3D 1080P stereo 2CH
0	1	1	1	2D 1080P DVI

Noted: the dial switch to dial downward is 1, dial upward is 0.

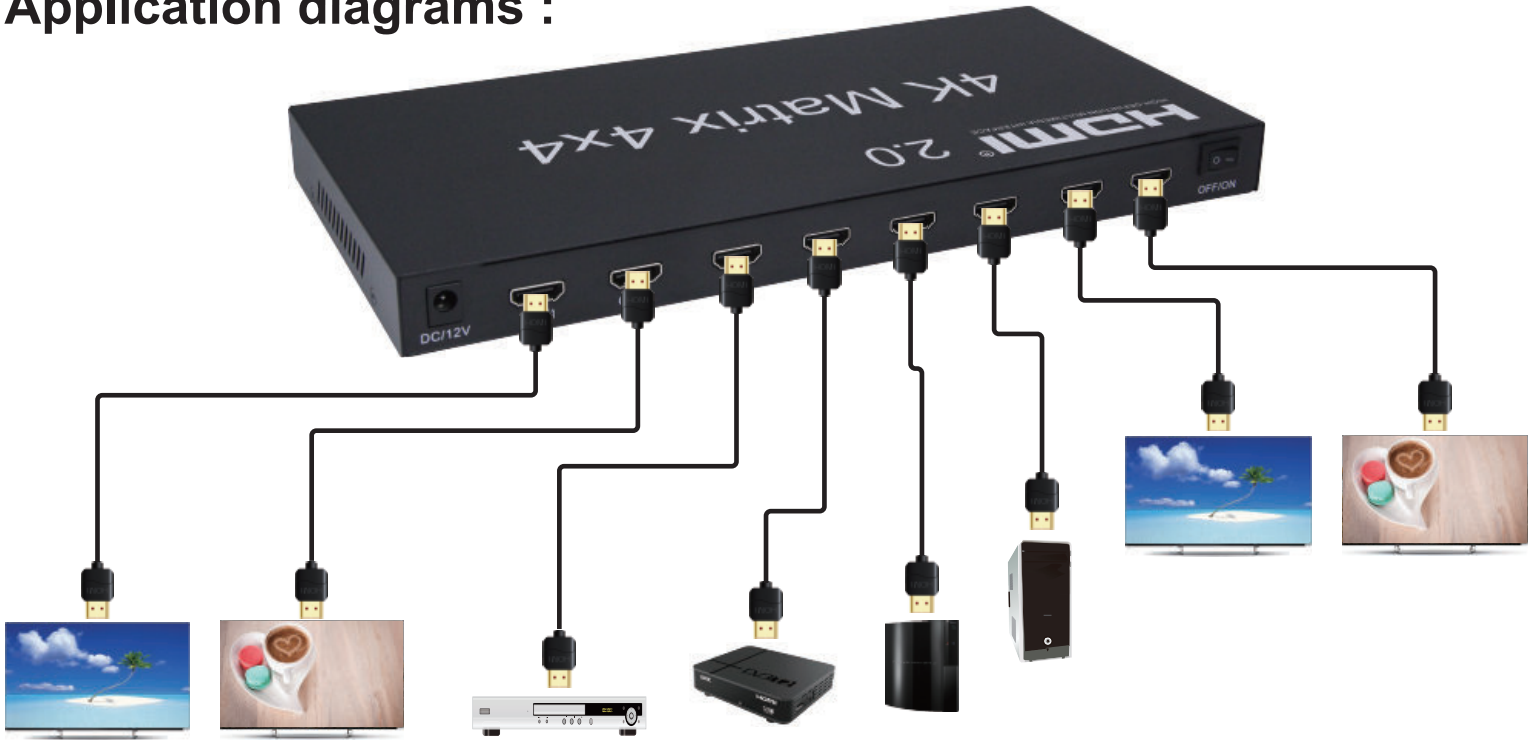
## The Remote Control instruction :



- ① Switch to one specific Input port
- ② Return to last Input port
- ③ Move forward one Input port
- ④ Output port

4x4 matrix supports IR control and there are four sets of control button to use to switch & control the four Output ports; ②、③ are used to move back or forward one Input port; ① is used to directly switch to one Input port.

## Application diagrams :

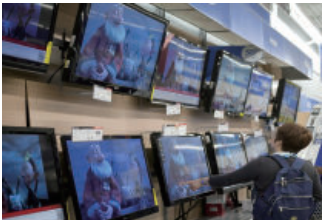


## Operating and Connecting :

1. Connect each HDMI source devices and input of HDMI Matrix with HDMI cable.
2. Connect display devices and output of HDMI Matrix with HDMI cable.
3. Use the IR remote control to switch the signal source freely.
4. Connect 12V power supply to the HDMI 4x4 Matrix.
5. How to use RS-232 port?

Through RS - 232 port you can update software and monitor the state of the input and output signals. And can switch signals. When connects the computer, customer can easily switch the signals via computer.

## Application scenario :



TV Store



Teaching room



Video Conference

## Notes :

- Pls use the machine as the instruction listed to keep the long use lifetime of the machine.
1. The machine should be placed at the spot far from the Damp, High-Temperature, Dusty, Erosive, and oxidative environment.
  2. All parts will be free from the strong shake, hit, fall.
  3. Touching the power adaptor with the wet hands is prohibited.
  4. Pls hold the power adaptor head and do not pull the power cord when cut off from the socket.
  5. Pls turn the power off when the machine is not used for long time.
  6. Pls do not open the cover and do not touch the inside parts.
  7. Pls use the original factory power adptor.

Before power on, pls check the connection line carefully. And make sure that all interfaces are normally connected. The common trouble shooting way shows below:

Trouble Description	Cause and Ways to deal with
Non-Power-Connected	1. Check if the power adaptor head is truly and correctly inserted the power socket.
	2. Check the power switch if it is in on status.
No Picture	1. Pls make sure that the TV is on and has been connected with the machine.
	2. Check if the signal source is on and well connected.
	3. Check the system connection quality.
	4. Check if the line is all good quality.
	5. Check the cable quality
Obscure Picture	1. To try again to connect the cable to be free from the unsuccessful connection.
	2. HDMI Cable Quality

## Accessories :

- |                        |      |                      |      |
|------------------------|------|----------------------|------|
| 1. HDMI 2.0 Matrix 4X4 | 1PCS | 3. 12V power adapter | 1PCS |
| 2. IR Remote Control   | 1PCS | 4. User Manual       | 1PCS |

# RS232 control protocol

Baud rate	9600bps
Data bits	8
Parity Check	None
Stop bits	1
Cyclic redundancy check	None

Command	HEX	Feedback	Description
cir 1e\r\n	63 69 72 20 31 65 0D 0A	s1x\r\n "x" value range 0~3	Output 1 select input port No.+1
cir 1d\r\n	63 69 72 20 31 64 0D 0A	s1x\r\n "x" value range 0~3	Output 1 select input port No.-1
cir 00\r\n	63 69 72 20 30 30 0D 0A	s10\r\n	output 1 select input 1
cir 01\r\n	63 69 72 20 30 31 0D 0A	s11\r\n	output 1 select input 2
cir 02\r\n	63 69 72 20 30 32 0D 0A	s12\r\n	output 1 select input 3
cir 03\r\n	63 69 72 20 30 33 0D 0A	s13\r\n	output 1 select input 4
cir 06\r\n	63 69 72 20 30 36 0D 0A	s2x\r\n "x" value range 0~3	Output 2 select input port No.+1
cir 05\r\n	63 69 72 20 30 35 0D 0A	s2x\r\n "x" value range 0~3	Output 2 select input port No.-1
cir 08\r\n	63 69 72 20 30 38 0D 0A	s20\r\n	output 2 select input 1
cir 09\r\n	63 69 72 20 30 39 0D 0A	s21\r\n	output 2 select input 2
cir 0a\r\n	63 69 72 20 30 61 0D 0A	s22\r\n	output 2 select input 3
cir 0b\r\n	63 69 72 20 30 62 0D 0A	s23\r\n	output 2 select input 4
cir 0e\r\n	63 69 72 20 30 65 0D 0A	s3x\r\n "x" value range 0~3	Output 3 select input port No.+1
cir 0d\r\n	63 69 72 20 30 64 0D 0A	s3x\r\n "x" value range 0~3	Output 3 select input port No.-1
cir 10\r\n	63 69 72 20 31 30 0D 0A	s30\r\n	output 3 select input 1
cir 11\r\n	63 69 72 20 31 31 0D 0A	s31\r\n	output 3 select input 2
cir 12\r\n	63 69 72 20 31 32 0D 0A	s32\r\n	output 3 select input 3
cir 13\r\n	63 69 72 20 31 33 0D 0A	s33\r\n	output 3 select input 4

cir 16\r\n	63 69 72 20 31 36 0D 0A	s4x\r\n "x" value range 0~3	Output 4 select input port No.+1
cir 15\r\n	63 69 72 20 31 35 0D 0A	s4x\r\n "x" value range 0~3	Output 4 select input port No.-1
cir 18\r\n	63 69 72 20 31 38 0D 0A	s40\r\n	output 4 select input 1
cir 19\r\n	63 69 72 20 31 39 0D 0A	s41\r\n	output 4 select input 2
cir 1a\r\n	63 69 72 20 31 61 0D 0A	s42\r\n	output 4 select input 3
cir 1b\r\n	63 69 72 20 31 62 0D 0A	s43\r\n	output 4 select input 4
bc \r\n	62 63 20 0D 0A	s1x\r\n s2x\r\n s3x\r\n s4x\r\n "x" value range 0~3	Read HDMI matrix status
mrp 0 0\r\n	6D 72 70 20 30 20 30 0D 0A	mrp 00 00\r\n	output 1 select IR input 1
mrp 0 1\r\n	6D 72 70 20 30 20 31 0D 0A	mrp 00 01\r\n	output 1 select IR input 2
mrp 0 2\r\n	6D 72 70 20 30 20 32 0D 0A	mrp 00 02\r\n	output 1 select IR input 3
mrp 0 3\r\n	6D 72 70 20 30 20 33 0D 0A	mrp 00 03\r\n	output 1 select IR input 4
mrp 1 0\r\n	6D 72 70 20 31 20 30 0D 0A	mrp 01 00\r\n	output 2 select IR input 1
mrp 1 1\r\n	6D 72 70 20 31 20 31 0D 0A	mrp 01 01\r\n	output 2 select IR input 2
mrp 1 2\r\n	6D 72 70 20 31 20 32 0D 0A	mrp 01 02\r\n	output 2 select IR input 3
mrp 1 3\r\n	6D 72 70 20 31 20 33 0D 0A	mrp 01 03\r\n	output 2 select IR input 4
mrp 2 0\r\n	6D 72 70 20 32 20 30 0D 0A	mrp 02 00\r\n	output 3 select IR input 1
mrp 2 1\r\n	6D 72 70 20 32 20 31 0D 0A	mrp 02 01\r\n	output 3 select IR input 2
mrp 2 2\r\n	6D 72 70 20 32 20 32 0D 0A	mrp 02 02\r\n	output 3 select IR input 3
mrp 2 3\r\n	6D 72 70 20 32 20 33 0D 0A	mrp 02 03\r\n	output 3 select IR input 4
mrp 3 0\r\n	6D 72 70 20 33 20 30 0D 0A	mrp 03 00\r\n	output 4 select IR input 1
mrp 3 1\r\n	6D 72 70 20 33 20 31 0D 0A	mrp 03 01\r\n	output 4 select IR input 2
mrp 3 2\r\n	6D 72 70 20 33 20 32 0D 0A	mrp 03 02\r\n	output 4 select IR input 3
mrp 3 3\r\n	6D 72 70 20 33 20 33 0D 0A	mrp 03 03\r\n	output 4 select IR input 4
mrp 4 0\r\n	6D 72 70 20 34 20 30 0D 0A	mrp 04 00\r\n	all output select IR input 1
mrp 4 1\r\n	6D 72 70 20 34 20 31 0D 0A	mrp 04 01\r\n	all output select IR input 2
mrp 4 2\r\n	6D 72 70 20 34 20 32 0D 0A	mrp 04 02\r\n	all output select IR input 3
mrp 4 3\r\n	6D 72 70 20 34 20 33 0D 0A	mrp 04 03\r\n	all output select IR input 4