

# CMLUX-24S

2 by 4 HDMI V1.3 Matrix

## Operation Manual



## **Revision History**

<b>Version No.</b>	<b>Date</b>	<b>Summary of Change</b>
<b>V1</b>	<b>20081111</b>	<b>Preliminary Release</b>
<b>V2</b>	<b>20090407</b>	<b>HDMI Cable distance &amp; Remote Control distance.</b>

## **Precaution**

Failure to follow the precautions described below may cause damage to HDMI 1.3 Matrix Box and void the warranty.

- DO NOT open the case. Doing so will void the warranty. If you find problem with it, please return back to your retailer or seller who will assist you or provide you with solution.
- DO NOT use third-Party AC adapter or power cord. Doing so may damage HDMI 1.3 Matrix.
- DO NOT bump, jar or drop contents of the products as it may damage it and result in warranty void.
- DO NOT set any liquids or beverages on the drive as they may damage HDMI 1.3 Matrix.

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## **1. Introduction**

Thank you for purchasing the HDMI V1.3 Matrix. Due to the increasing popularity of HDMI products people are starting to have more than one HDMI device in their home or office. The HDMI V1.3 Matrix is an excellent solution for connecting all of your HDMI devices and sources together and with an excellent remote control to switch between the devices and sources this system is also easy to use. Furthermore, the HDMI V1.3 Matrix can transfer Deep Color video and bit stream digital audio, it also supports HDMI 1.3, HDCP 1.1 and DVI 1.0.

## **2. Application**

- High performance HDMI 1.3 Matrix with two inputs and four outputs and a remote control allowing you to link your favorite HDMI devices in order to enjoy movies, music, or games at the same time.
- Each of the two HDMI sources can be directed to any of the four HDMI displays or one source can be directed to all of the displays.
- When an HDMI signal progresses through the system, it is re-timed, and level-compensated.
- Define HDCP, HDMI and DVI source. The LED light will turn on to define the input sources' format.
- Switchable EDID function for choosing the native resolution to display.

## **3. Package Contents**

- 2 by 4 V1.3 HDMI Matrix.
- Remote Control CR33 (with Battery)
- IR Receiver
- Power Cord
- 5V DC power supply adaptor.
- Operation Manual.

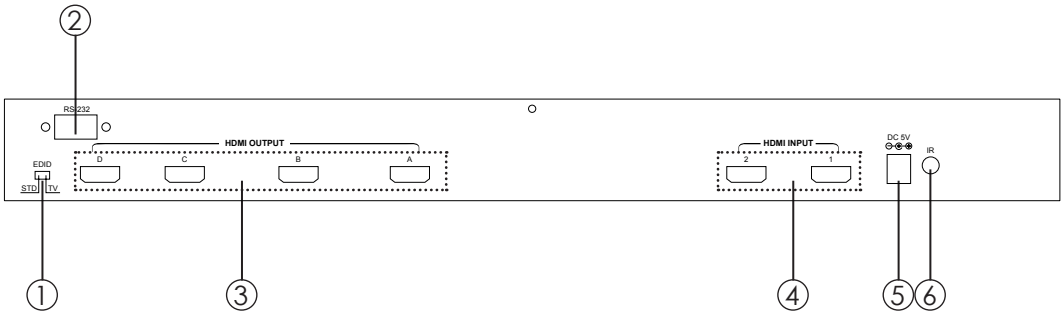
## **4. System requirement**

HDMI input device(s) and HDMI output device(s).

## 5. Features

- HDMI 1.3, HDCP 1.1 and DVI 1.0 compliant.
- Supports digital video formats in 12bit Deep Color and new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio) digital audio.
- The HDMI input is compensated, clock / phase adjusted and jitter free so the output is a brand new, standard HDMI signal.
- Supports input source LED indicators on each output select.
- Compatible with all HDMI sources and displays.
- Supports a wide range of PC and HDTV resolutions from VGA to UXGA and 480i to 1080p.
- Supports RS-232 control.
- Supports IR remote control and IR extender.
- Dolby Digital, DTS digital audio transmission (32-192 kHz Fs sample rate).
- Supports LPCM7.1 channels output from each independent HDMI ports.
- HDMI cable distance testing that with 1080p/8bit resolution, the Input distance is 10 meters and with 1080p/12bit the Input distance is 10 meters.
- HDMI cable distance testing showed that with 1080p/8bit the output distance is 10meters, and with 1080p/12bit the output distance is 6meters.

## 6. Installation

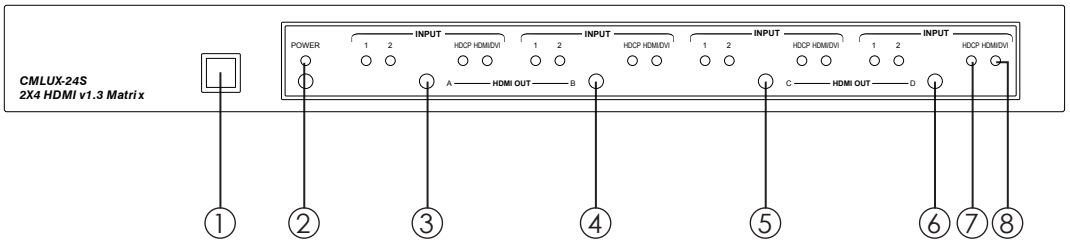


- ① EDID Control Switcher: Default factory setting is TV, leave as is when the displays are working properly. Switch to STD to use the built-in EDID. Detailed capabilities in Note.
- ② RS-232 communication port: Connect to the COM port of your PC for long distance control using RS-232. Detail specifications in section 9.
- ③ HDMI outputs: Connect each of these output ports to the HDMI display(s).
- ④ HDMI inputs: Connect input ports to the HDMI or DVI output of your source equipment such as DVD player or set-top-box.
- ⑤ Power: Plug the 5VDC power supply into the unit and connect the adaptor to an AC wall outlet.
- ⑥ IR extender.

Note: 1. EDID Control Switch: STD(INT) and TV(EXT), Default setting is TV

2. When EDID is on TV: Leave as is if the display is working properly. The unit will detect the first HDMI output source's EDID and will record in the unit. If the first detected output source is DVI it will move on to the next source until the first HDMI has been detected. The detection priority is HDMI v1.3 > HDMI v1.2 > DVI.
3. When EDID is on STD: Unit will use build-in EDID  
Video Support→1080p 12bit(max)  
Audio Support→PCM2
4. Your EDID Selection will only activated when the unit is re-plugged and powered on.

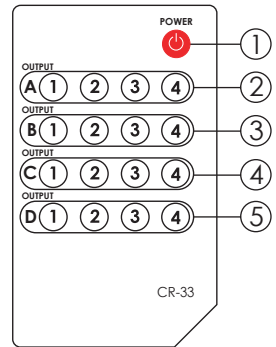
## 7. Front View



- ① Remote control sensor.
- ② Power switch & LED Indicator: The green LED will switch on when the power is turned on and the red LED will turn off when power is switched off.
- ③ Input Select/Indicators (A): Press the HDMI out “A” button repeatedly to switch to your desired source and the LED will turn on to indicate which input source is being selected and will route it to the HDMI A output. When the input source is HDMI/DVI , the HDMI/DVI LED will turn on, if the input source has HDCP protection the HDCP LED will turn on.
- ④ Input Select/Indicators (B): Press the HDMI out “B” button repeatedly to switch to your desired source and the LED will switch on to indicate which input source is being selected and it will route it to the HDMI B output. When the input source is HDMI/DVI , the HDMI/DVI LED will turn, if the input source has HDCP protection the HDCP LED will switch on.
- ⑤ Input Select/Indicators (C): Press the HDMI out “C” button repeatedly to switch to your desired source and the LED will switch to indicate which input source is being selected and it will route it to the HDMI C output. When the input source is HDMI/DVI , the HDMI/DVI LED will turn on, if the input source has HDCP protection the HDCP LED will switch on.
- ⑥ Input Select/Indicators (D): Press the HDMI out “D” button repeatedly to switch to your desired source and the LED will turn on to indicate which input source is being selected and it will route it to the HDMI D output. When the input source is HDMI/DVI , the HDMI/DVI LED will switch on, if the input source has HDCP protection the HDCP LED will turn on.
- ⑦ HDCP Source light: When the input source(s) have HDCP, the HDMI 1.3 Matrix will detect the code and send it to the output source(s).
- ⑧ HDMI/DVI Source light: When the input source(s) is HDMI format, the LED light will switch on.

## 8. Remote Control

1. Power: Press the button to turn on/off the unit.
2. Input Select for HDMI OUT A: Press 1 or 2 to select the desired input source for HDMI OUT A.
3. Input Select for HDMI OUT B: Press 1 or 2 to select the desired input source for HDMI OUT B.
4. Input Select for HDMI OUT C: Press 1 or 2 to select the desired input source for HDMI OUT C.
5. Input Select for HDMI OUT D: Press 1 or 2 to select the desired input source for HDMI OUT D.



\*Notes: Selection 3&4 are not functioning for this model.

## 9. RS-232 Protocol Pin Definition

CMLUX-24S			Remote Control Console	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	Tx		2	Rx
3	Rx	→	3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC	←	6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600bps

Data bit: 8bits

Parity: None

Stop bit: 1bit

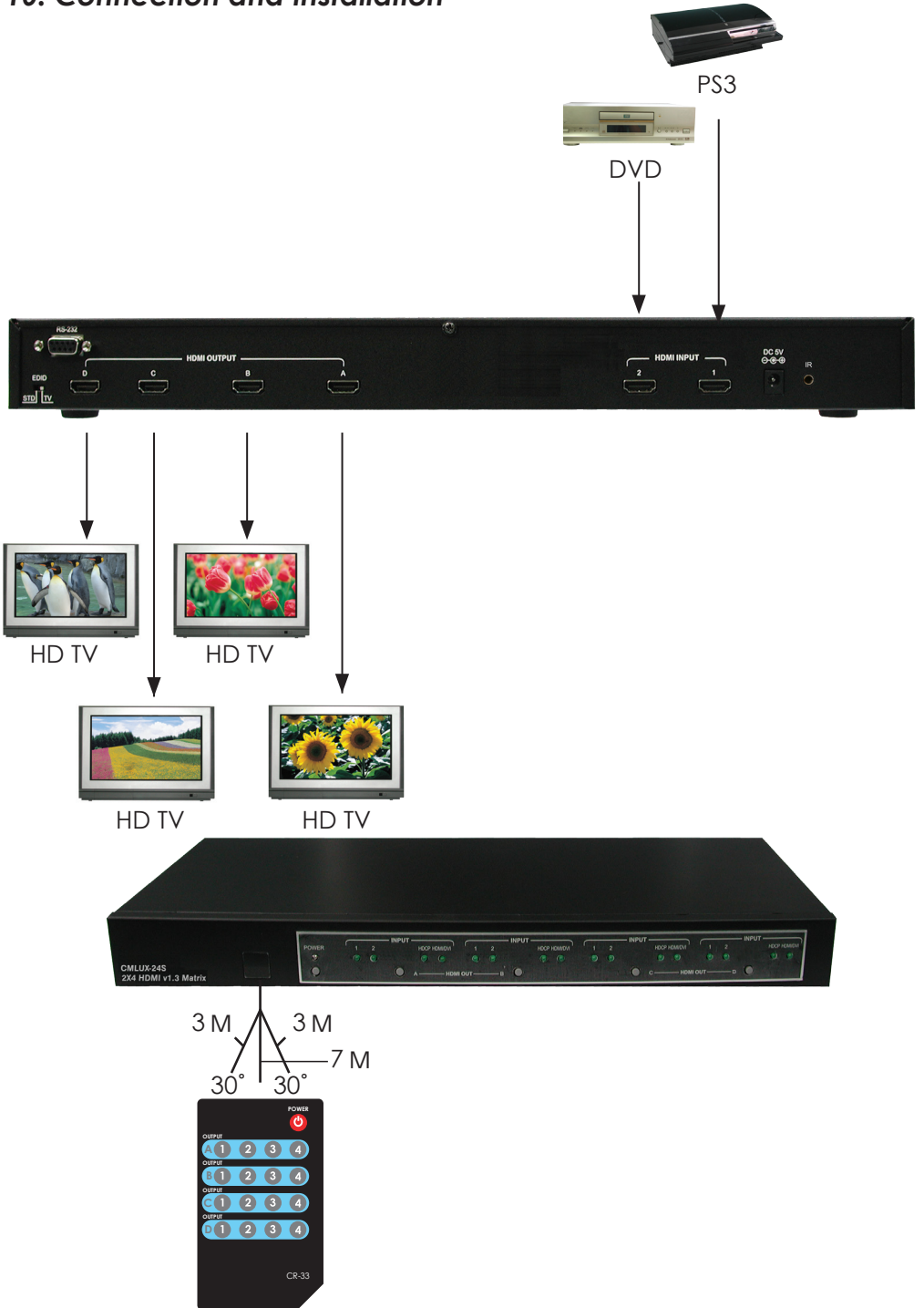
Flow Control: None



## 9.1 Commands

<b>COMMAND</b>	<b>ACTION</b>
POWER 00	Power Off (standby)
POWER 01	Power On
PORT 11	Output A select Input1
PORT 12	Output A select Input2
PORT 13(No Function)	Output A select Input3
PORT 14(No Function)	Output A select Input4
PORT 21	Output B select Input1
PORT 22	Output B select Input2
PORT 23(No Function)	Output B select Input3
PORT 24(No Function)	Output B select Input4
PORT 31	Output C select Input1
PORT 32	Output C select Input2
PORT 33(No Function)	Output C select Input3
PORT 34(No Function)	Output C select Input4
PORT 41	Output D select Input1
PORT 42	Output D select Input2
PORT 43(No Function)	Output D select Input3
PORT 44(No Function)	Output D select Input4

# 10. Connection and Installation



## 11. Specifications

Frequency bandwidth	2.25Gbps (single link)
Input ports	2 x HDMI female ports,
Output ports	4 x HDMI female ports
EDID	Standard, TV/Moving Port 1
HDMI Audio output	PCM2, PCM5.1, PCM7.1, Dolby5.1, DTS5.1, DD+, D-TrueHD, DTS-HD
HDMI Cable in	1080p 8bit (10M), 1080p 12bit (10M)
HDMI Cable out	1080p 8bit (10M), 1080p 12bit (6M)
Color Space	RGB_24/36, YCbCr 4:4:4_24/36, YCbCr 4:2:2, xvyycc
IR	Yes
Deep Color	1080p 12bit
HDMI Resolution	480i~1080p 50/60, 1080p 24, VGA~UXGA
DVI Resolution	480i~1080p 50/60, 1080p 24, VGA~UXGA
Power Supply	5VDC/6A (US/EU standards, CE/FCC/UL certified)
Dimensions (mm)	438(W) x 175(D) x 49(H)
Weight(g)	3100
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0°C ~ 40°C
Power Consumption	8W(Max)



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