CMLUX-22S
2 by 2 HDMI V1.3 Matrix

Operation Manual

CMLUX-22S

Revision History

Version No.	Date	Summary of Change
V1	*20090518*	*Preliminary Release*

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

With HDMI products gaining in popularity consumers are beginning to look for a way to connect their various devices. The HDMI V1.3 Matrix is a great solution for connecting your HDMI devices and sources together, making it more convenient for you to access your content, and thanks to the remote control it's a flexible device that gives you many options of when and where to play your media. Furthermore, the HDMI V1.3 Matrix can transfer Deep Color video and bit stream digital audio with maximum performance and it supports HDMI 1.3, HDCP 1.1 and DVI 1.0.

2. Application

● Control multiple sources and displays
● Integrate your home entertainment system
● Multi-tasking and presentations
● Showroom Display
● Advertising

3. Package Contents

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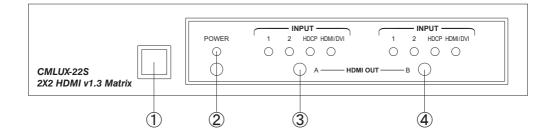
4. System Requirement

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

5. Features

- HDMI 1.3, HDCP 1.1 and DVI 1.0 compliant.
- Supports digital video formats in Deep Color 12bit 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 signal is as good as a standard HDMI signal.
- Supports input source LED indicators on each output.
- 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 showed that with 1080p/8-bit or 12-bit resolution, the input/output distance can be up to 15/15 meters.
- Switchable EDID function for choosing the desired resolution to display.
- Define HDCP, HDMI and DVI source. The LED will turn on to define the input source's format.
- When an HDMI signal progresses through the system, it is re-timed, and level-compensated.
- High performance HDMI 1.3 Matrix of 2 (two) input and 2 (two) output with remote control for you to link with your favorite HDMI devices to enjoy movies, music, or games at the same time.
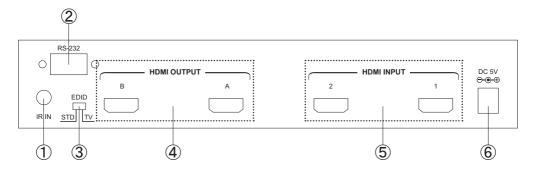
6. *Operation Controls and Functions*
6.1 Front Panel

① . Remote control sensor.

② . Power switch & LED Indicator: The green LED will turn on when the power is switched on and the red LED will turn on when powered 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 routed to HDMI output A. Also, when the input source is HDMI/DVI the HDMI/DVI LED will be 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 routed to HDMI output B. 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 be on.

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6.2 Rear Panel

① . IR IN: Place the IR receiver cable in front of the displays and then use the sources remote to the device through an IR receiver cable.

② . RS-232: Connect to the COM port of your PC for long distance control over RS-232. Detail specifications in section 8.

③ . EDID: EDID control switch, the default factory setting is on TV, leave as is when the displays are working properly. Switch to STD to use the built-in EDID.
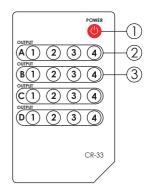
Note:

1. STD means using an internal EDID, TV means using an external EDID.

2. When EDID is switched to TV, the unit will detect the first HDMI output source's EDID and will record it in the unit. If the first detected output source is DVI it will pass on to the next source, until the first HDMI source has been detected. The detection priority is HDMI v1.3 > HDMI v1.2 > DVI.

3. When EDID is on STD the unit will use the built-in EDID which supports:
   Video → 1080p 12-bit (max) but not supporting xvYCC
   Audio → PCM2

4. Your EDID selection will only be activated when the unit is re-plugged and powered on.

④ . HDMI OUTPUT A&B: Connect each of these output ports to the HDMI display(s). This device has a repeater function and each output port can support up to 16 KSV key sets, which means two outputs can support a total of 32 KSV key sets.

⑤ . HDMI INPUT 1 & 2: Connect these input ports to the HDMI/DVI output port of your source device such as a DVD player or set-top-box.

⑥ . DC 5V: Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.

7. Remote Control

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

*Notes: Output C & D with selection 3 & 4 are not functioning for this model.

8. RS-232 Protocol
Pin Definition

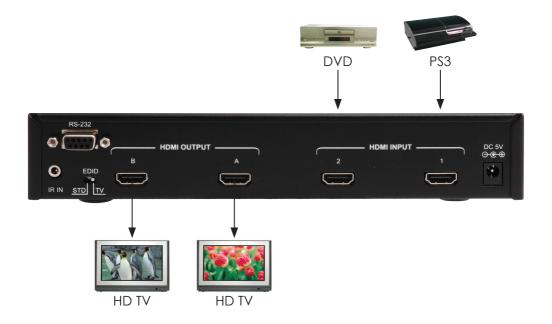| CMLUX-22S			Remote Control Console	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	Tx		2	Rx
3	Rx	→	3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC	←	6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600bps
Data bit: 8bits
Parity: None
Stop bit: 1bit
Flow Control: None

8.1 Commands

COMMAND	ACTION
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)	
PORT 14(No Function)	
PORT 21	Output B select Input1
PORT 22	Output B select Input2

9. *Connection and Installation*

DVD   PS3

HDMI OUTPUT   HDMI INPUT

B   A   2   1

RS-232

EDID
STD TV
IR IN

DC 5V

HD TV   HD TV

CMLUX-22S
2X2 HDMI v1.3 Matrix

POWER   INPUT   INPUT
1 2 HDCP HDMI/DVI   1 2 HDCP HDMI/DVI
A — HDMI OUT — B

3 M   3 M
7 M
30°   30°

POWER

OUTPUT
A 1 2 3 4
OUTPUT
B 1 2 3 4
OUTPUT
C 1 2 3 4
OUTPUT
D 1 2 3 4

CR-33

10. Specifications

Frequency bandwidth	2.25Gbps (single link)
Input ports	2 x HDMI female ports,
Output ports	2 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 (15M), 1080p 12bit (15M)
HDMI Cable out	1080p 8bit (15M), 1080p 12bit (15M)
Color Space	RGB_24/36,YCbCr 4:4:4_24/36, YCbCr 4:2:2,xvycc
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/3.2A (US/EU standards, CE/FCC/UL certified)
Dimensions (mm)	240(W) x 169(D) x 43(H)
Weight(g)	1260
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0°C ~ 40°C
Power Consumption	9W(Max)