

# 4 by 2 HDMI V1.3 Matrix ID #736



## Operation Manual

## Introduction

Thank you for purchasing HDMI V1.3 Matrix. While HDMI products are getting more and more popular in the market people usually have more than one HDMI devices and sources in one place. HDMI V1.3 Matrix provides the excellent solution for connecting all the devices and sources together for your convenience use, it also provides you a variety of choices on where to play your images with remote controller. Further, 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.

Please follow this manual to begin enjoying the benefit of your HDMI 1.3 Matrix. We suggest keeping it in a safe place for future reference.

## Applications

- High performance HDMI 1.3 Matrix of 4 (four) input and 2 (two) output with remote control for you to link with your favor HDMI devices to enjoying movies, music, or games at once.
- When HDMI signal progresses through the system, it is re-timed, and level-compensated.
- Define HDCP, HDMI and DVI source. The LED light will light up to define the input sources' format.
- Switchable EDID function for choosing the native resolution to display.

## System Requirements

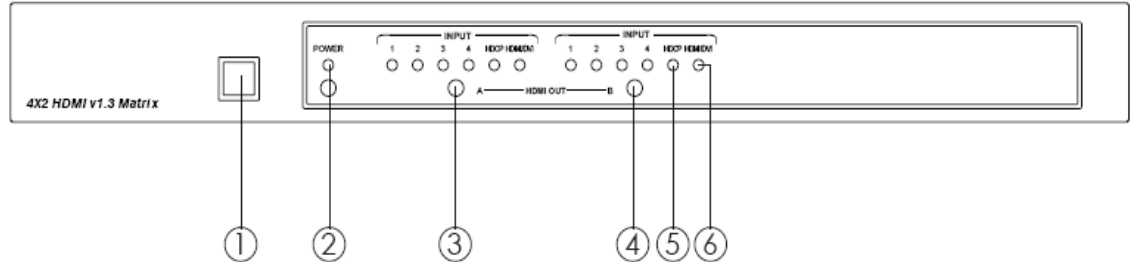
HDMI input device(s) and HDMI output device(s).

## 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 eliminated 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 test with 1080p/8bit resolution, the Input/Output source can run up to 10/10 meters. If 1080p/12bit the Input/Output source can run up to 10/6 meters.

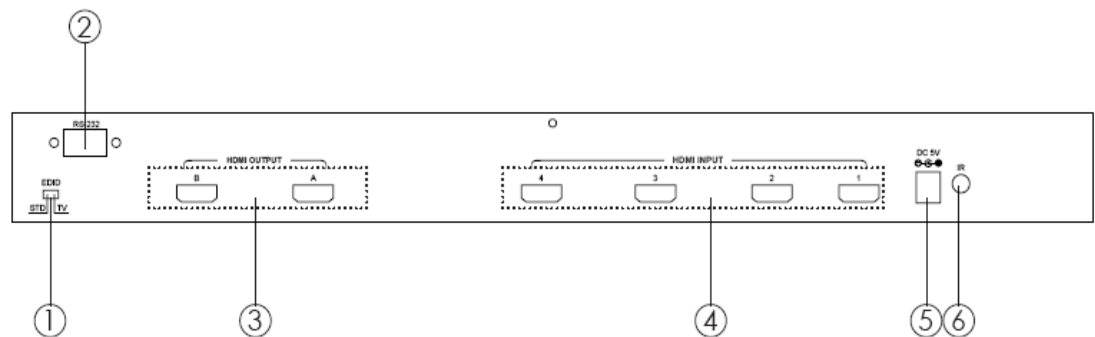
# Operation Controls and Functions

## Front Panel



1. Remote control sensor.
2. **Power switch & LED Indicator:** Green LED will illuminate when the power is turned on and Red LED will illuminate when power is turned off.
3. **Input Select/Indicators (A):** Press the HDMI out "A" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI A output. Also, when the input source is HDMI/DVI the HDMI/DVI LED will illuminate, if the input source with the HDCP protection the HDCP LED will illuminate.
4. **Input Select/Indicators (B):** Press the HDMI out "B" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI B output. Also, when the input source is HDMI/DVI the HDMI/DVI LED will illuminate, if the input source with the HDCP protection the HDCP LED will illuminate.
5. **HDCP Source light:** When the input source(s) have HDCP, HDMI 1.3 Matrix will detect the code and send to output source(s).
6. **HDMI/DVI Source light:** When the input source(s) is HDMI format, the led light will light up.

## Rear Panel



1. **EDID Control Switch:** Default factory setting is TV, leave as it is when the displays are working properly. Switch to STD to use build-in EDID Detail capability in Note.
2. **RS-232 communication port:** Connect the COM port of your PC for the distant control over RS-232 channel. Detail specification in section 9.

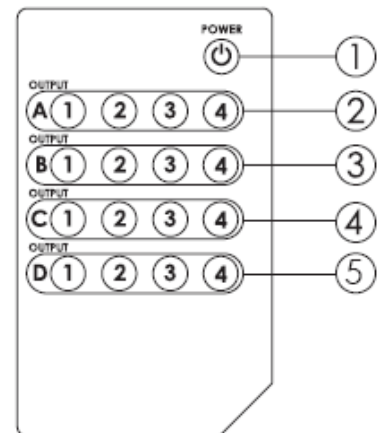
3. **HDMI outputs:** Connect each of these output ports to the HDMI display(s).
4. **HDMI inputs:** Connect input ports to the HDMI or DVI output of your source equipment such as DVD player or set-top-box.
5. **Power:** Plug the 5VDC power supply into the unit and connect the adaptor to AC wall outlet.
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 it is if display is properly, unit will detect the first HDMI output source's EDID and record in the unit. If the first detected output source is DVI it will pass to next source, until the first HDMI been detected. The detection priority is HDMI v1.3 > HDMI v1.2 > DVI.
3. **When EDID is on STD:** unit use build-in EDID  
Video Support->1080p 12bit(max)  
Audio Support->PCM2
4. Your EDID selection will only activated when the unit is replug and power on.

## Remote Control

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



## RS-232 Protocol

### Pin Definition

ID # 736		Remote Control Console	
PIN	Definition	PIN	Definition
1	NC	1	NC
2	TxD	2	RxD
3	RxD	3	TxD
4	NC	4	NC
5	GND	5	GND
6	NC	6	NC
7	NC	7	NC
8	NC	8	NC
9	NC	9	NC

#### \* RS-232 transmission format:

**Baud Rate:** 9600bps

**Data Bit:** 8 bits

**Parity:** None

**Stop Bit:** 1 bit

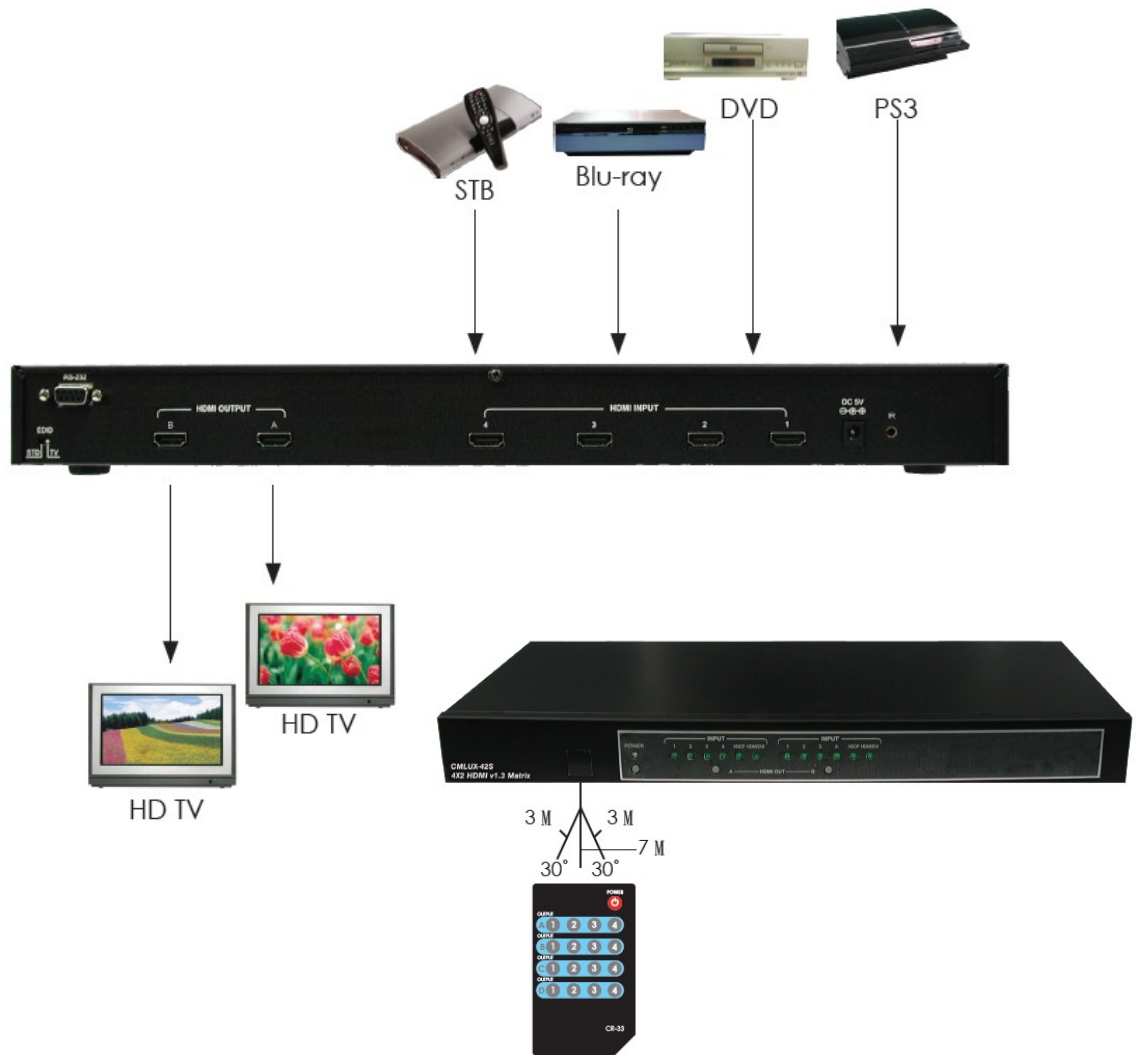
**Flow Control:** None

### 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	←	Output A select Input3
PORT 14	←	Output A select Input4
PORT 21	←	Output B select Input1
PORT 22	←	Output B select Input2
PORT 23	←	Output B select Input3
PORT 24	←	Output B select Input4
PORT 31	←	Output C select Input1

PORT 32	←	Output C select Input2
PORT 33	←	Output C select Input3
PORT 34	←	Output C select Input4
PORT 41	←	Output D select Input1
PORT 42	←	Output D select Input2
PORT 43	←	Output D select Input3
PORT 44	←	Output D select Input4

## Installation



## Specifications

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