

# 4 to 4 HDMI V1.3 Matrix Box ID# 734



## Operation Manual

## Introduction

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.

## Applications

- High performance HDMI 1.3 Matrix of 4 (four) input and 4 (four) 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.

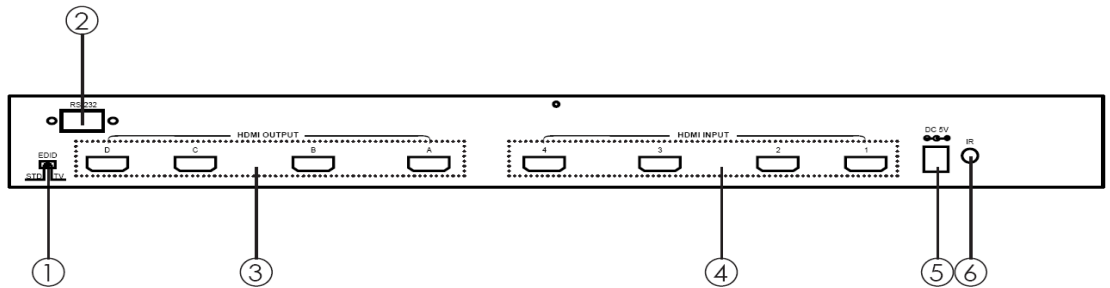
## System Requirements

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

## Features

- DMI 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 15/15 meters. with 1080p/12bit the Input/Output source can run up to 15/6 meters.

## Operating Functions and Controls Rear Panel

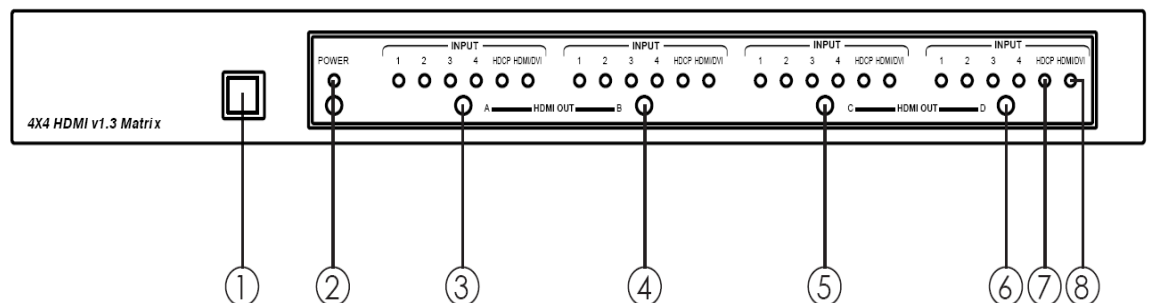


- 1 EDID Control Switch:** Default factory setting is TV, leave as it is when the displays are working properly. Switch to STD to use built-in EDID Detail capability in Note.
- 2 RS-232 communication port:** Connect the COM port of your PC for the distant control over RS-232 channel. Detail specification 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 built-in EDID  
Video Supports->1080p 12bit(max)  
Audio Supports->PCM2
- 4.** Your EDID selection will only activated when the unit is replug and power on.

## Front Panel



- 1 Remote control sensor.**
- 2 Power switch & LED Indicator:** The LED will illuminate when the power is

turned on.

**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 Input Select/Indicators (C):** Press the HDMI out “C” 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 C 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.

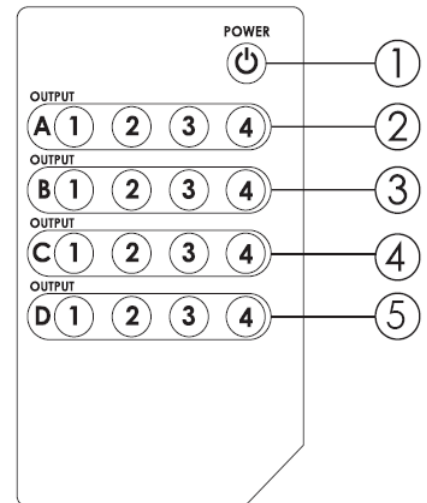
**6 Input Select/Indicators (D):** Press the HDMI out “D” button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI D output. Also, when the input source is HDMI/DVI the HDMI/DVI LED will illuminate, if the input source with the HDCP protection the HDCP LED will illuminate.

**7 HDCP Source light:** When the input source(s) have HDCP, HDMI 1.3 Matrix will detect the code and send to output source(s).

**8 HDMI/DVI Source light:** When the input source(s) is HDMI format, the led light will light up.

## 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 Definitions**

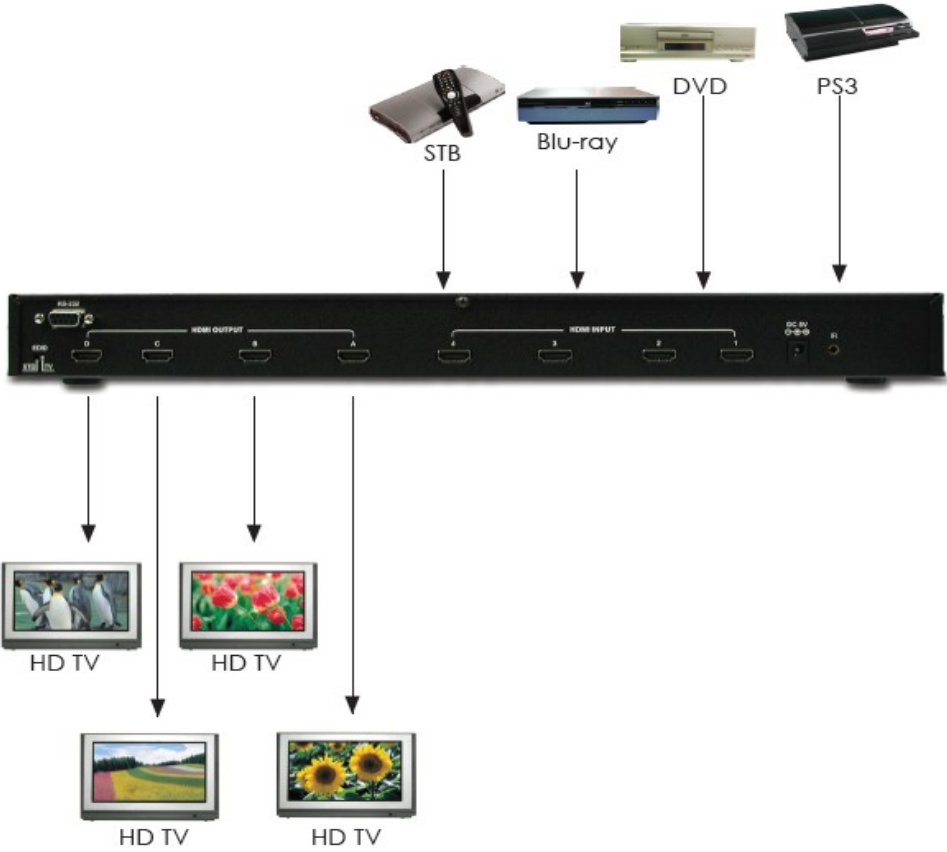
| ID#734 |            |   | Remote Control Console |            |
|--------|------------|---|------------------------|------------|
| PIN    | Definition |   | PIN                    | Definition |
| 1      | NC         |   | 1                      | NC         |
| 2      | Tx         |   | 2                      | 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: 8 bits  
 Parity: None  
 Stop Bit: 1 bit  
 Flow Chart: 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 |

Connection



## Specifications

|                              |   |
|------------------------------|---|
| <b>Frequency Bandwidth</b>   | 2.25Gbps (single link)  |
| <b>Input Ports</b>           | 4 x HDMI female ports,  |
| <b>Output Ports</b>          | 4 x HDMI female ports   |
| <b>EDID</b>                  | Standard, TV/Moving Port 1                                    |
| <b>HDMI Audio Output</b>     | PCM2, PCM5.1, PCM7.1, Dolby5.1, DTS5.1, DD+, D-TrueHD, DTS-HD |
| <b>HDMI Cable in</b>         | 1080p 8bit (15M), 1080p 12bit (15M)                           |
| <b>HDMI Cable out</b>        | 1080p 8bit (15M), 1080p 12bit (6M)                            |
| <b>Color Space</b>           | RGB_24/36, YCbCr 4:4:4_24/36, YCbCr 4:2:2, xvYCC              |
| <b>IR</b>                    | Yes   |
| <b>Deep Color</b>            | 1080p 12bit   |
| <b>HDMI Resolution</b>       | 480i~1080p 50/60, 1080p 24, VGA~UXGA                          |
| <b>DVI Resolution</b>        | 480i~1080p 50/60, 1080p 24, VGA~UXGA                          |
| <b>Power Supply</b>          | 5VDC/5A (US/EU standards, CE/FCC/UL certified)                |
| <b>Dimensions (mm)</b>       | 438(W) x 175(D) x 49(H)                                       |
| <b>Weight(g)</b>             | 3100  |
| <b>Chassis Material</b>      | Metal   |
| <b>Silkscreen Color</b>      | Black   |
| <b>Operating Temperature</b> | 0°C ~ 40°C  |
| <b>Power Consumption</b>     | 16.5W(Max)  |