CDPS-U10H2HFS
10 By 2 HDMI Matrix Fast Switch


Operation Manual.

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## SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack or install or operate this equipment, and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.


## REVISION HISTORY

| VERSION NO. | DATE DD/MM/YY | SUMMARY OF CHANGE |
| :--- | :--- | :--- |
| VRO | $22 / 06 / 15$ | Preliminary Release |
|  |  |  |
|  |  |  |

## CONTENTS

1. Introduction ..... 1
2. Applications ..... 1
3. Package Contents ..... 1
4. System Requirements ..... 1
5. Features ..... 2
6. Operation Controls and Functions ..... 3
6.1 Front Panel ..... 3
6.2 Rear Panel. ..... 5
6.3 Remote Control. ..... 6
6.4 OSD Menu .....  8
6.5 RS-232 Protocols ..... 14
6.6 IR Pin Definitions ..... 14
6.7 IP Searching Software Application and Installation ..... 15
6.8 Telnet \& RS-232 Commands ..... 16
6.9 Telnet Control ..... 18
6.10 WebGUI Control ..... 20
7. Specifications ..... 24
8.1 Technical Specifications ..... 24
8.2 Video Specifications ..... 25

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## 1. INTRODUCTION

This 10 by 2 HDMI UHD Matrix is an advanced solution for switching up to 10 HDMI inputs to two HDMI outputs. It provides high performance pass-through of video/audio and is capable of receiving and transmitting $300 \mathrm{MHz} / 9 \mathrm{Gbps}$ bandwidth rate with no data loss. It's Fast Switching technology can greatly reduce the time required to swap between inputs. Supporting the latest features you can be assured of reliable and high quality HDMI distribution.

## 2. APPLICATIONS

- Showroom display \& control
- Educational demo
- Installation usage
- Advertising display


## 3. PACKAGE CONTENTS

- 10 By 2 HDMI Matrix Fast Switch
- 1 x IR Extender
- $1 \times$ Remote Control with Battery
- $1 \times 5 \mathrm{~V} / 2.6 \mathrm{~A}$ Power Adaptor
- $1 \times$ Left \& Right Ear Racks
- Operational Manual


## 4. SYSTEM REQUIREMENTS

Input source equipment such as DVD/Blu-ray player and output HD display/Monitor with HDMI cables.

## 5. FEATURES

- Supports UHD resolutions up to $4 \mathrm{~K} 2 \mathrm{~K} @ 24 / 25 / 30 \mathrm{~Hz}$ \& 4 K 2 K YUV420@60Hz
- Supports HDTV resolutions up to 1080@60Hz, ‘Deep Color' 36/30/24bit and PC resolutions up to WUXGA@60Hz(RB)
- Supports 3D
- Supports pass-through of audio formats: LPCM 2/5.1/7.1CH, Dolby Digital 2~5.1CH, DTS 2~5.1CH, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos and DTS-HD Master Audio
- Supports EDID selection function
- Supports control via IR, RS-232, Telnet and WebGUI controls
- Input port HDCP support Standard and Apple mode. The Apple mode selection to guarantees the use of Apple devices.
- Compliant with DVI source

Note: Supporting HDMI to DVI conversion when HDMI sources is nondeep color and color space RGB.

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## 6. OPERATION CONTROLS AND FUNCTIONS

### 6.1 Front Panel



1) POWER Button

Press this button to switch On or set the device to standby mode.

## (2) POWER LED

This LED will illuminate in green when the device is power On and if it is switched to standby mode the LED will turn red.

## (3) IR Window

This IR Receiver receives the remote control signal from the package included remote control only.

## (4) IN 1~10

Press these IN buttons to select an input from the 10 input sources.
(5) OUT A/B

Press these buttons once a time along with an IN buttons to select an input source for an output display. i.e. OUTA $\rightarrow \mathbb{N} 1 \rightarrow$ TAKE or OUTB $\rightarrow$ INIO $\rightarrow$ TAKE.

## (6) CANCLE

Press this button to cancel the IN/OUT selection and during any selection under MENU.
(7) TAKE

Press this button to confirm the selection of an IN and an OUT button. If this button is not pressed the IN \& OUT selection will not be executed.

## (8) MENU

Press to enter into the menu selection.

## 9 ENTER

Press to confirm the selection.
10 +/-
Press these buttons to move up/down under menu selection.

## (11) PRESET

Press this button to recall the preset setting from 1~10. Press and select from $\operatorname{IN1} \sim 10$ then press TAKE to confirm the recall selection or press CANCEL to exit the selection. To reset the Preset setting, enter into menu and select Preset setting from IN1~10 then press OUTA and select an input from $\mathbb{N 1} 10$ then press OUTB and select an input from IN1~10 again and press ENTER to confirm the selection. eg. To preset 2's figure, MENU $\rightarrow$ ENTER $\rightarrow$ Matrix Preset $\rightarrow$ Enter $\rightarrow$ Preset2 $\rightarrow$ IN2 $\rightarrow$ OUTA $\rightarrow$ IN8 $\rightarrow$ OUTB $\rightarrow$ IN7 $\rightarrow$ ENTER

## 12 ALL

Press this button to select all outputs to display with an input source. e.g. To select all output with input source 3. ALL $\rightarrow$ IN3

## (13) MUTE

Press this button to mute video and audio on OUT A or B or on all output. e.g. To mute output A OUTA $\rightarrow$ MUTE

## 4. LOCK

Press this button to lock all button functions on the panel to unlock, press the button and hold for 3 seconds.

## (15) LCM

Displaying Input and Outputs selection and menu selection.

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### 6.2 Rear Panel



## (1) HDMIIN

Connect from source equipment such as Blu-ray/DVD/PS3 players, Set-Top-Box or any HDMI equipped source device for input signal sending.
(2) HDMI OUT

Connect to HDMI TV/display or HD Amplifier for output image and or audio display.

## (3) SERV.

This slot is reserved for firmware update use only.

## (4) CONTROL

Connect from PC/Laptop with active internet service for Telnet or WebGUI control with RJ-45 terminated cable.
(5) RS-232

Connect from PC/Laptop for RS-232 command sending to control the device.

## 6 IR IN

Connect the IR Receiver included in the package for IR signal receive from the included remote control.
(7) DC 5V

Connect the adaptor included in the package and connect to AC wall outlet for power supply.

### 6.3 Remote Control

(1) POWER

Press this button to switch On or set the device to standby mode.

## (2) MUTE

Press this button to mute video and audio on OUT A or B or on all output. e.g. To mute output A OUTA $\rightarrow$ MUTE
(3) OUTA/B

Press these buttons once a time along with an IN buttons to select an input source for an output display. i.e. OUTA $\rightarrow$ IN1 $\rightarrow$ TAKE or OUTB $\rightarrow$ IN1O $\rightarrow$ TAKE.

## (4) IN 1~10

Press these IN buttons to select an input from the 10 input sources.
(5) +/-

Press these buttons to move up/ down under menu selection.

## 6 OK



Press to confirm the selection.
(7) CANCEL

Press this button to cancel the IN/OUT selection and during any selection under MENU.
(8) MENU

Press to enter into the menu selection.

## 9 TAKE

Press this button to confirm the selection of an IN and an OUT button. If this button is not pressed the IN \& OUT selection will not be executed.

## 10 PRESET

Press this button to recall the preset setting from 1~10. Press and select from $\operatorname{IN} 1 \sim 10$ then press TAKE to confirm the recall selection or press CANCEL to exit the selection. To reset the Preset setting, enter into menu and select Preset setting from $\operatorname{IN1} \sim 10$ then press OUTA and select an input from $\operatorname{NN} 1 \sim 10$ then press OUTB and select an input from $\operatorname{IN} 1 \sim 10$ again and press ENTER to confirm the selection. eg. To preset 2's figure, MENU $\rightarrow$ ENTER $\rightarrow$ Matrix Preset $\rightarrow$ ENTER $\rightarrow$ Preset2 $\rightarrow$ IN2 $\rightarrow$ OUTA $\rightarrow$ IN8 $\rightarrow$ OUTB $\rightarrow$ IN7 $\rightarrow$ ENTER

## (11) LOCK

Press this button to lock all button functions on the panel to unlock, press the button and hold for 3 seconds.

12 ALL
Press this button to select all outputs to display with an input source. e.g. To select all output with input source 3. ALL $\rightarrow$ IN3
6.4 OSD Menu

| Main Menu | Sub Menu | Description | Default |
| :---: | :---: | :---: | :---: |
| EDID Mode | All | All Input port is using same EDID. <br> In menu "EDID All", can select suitable EDID. | All |
|  | Appoint | Each Input port can select individual EDID. <br> In menu "EDID IN1~10" select suitable EDID. |  |
|  | Exit |  |  |
| EDID All | Sink A | Copy Output A display EDID | $\begin{aligned} & \text { 8/2D/ } \\ & \text { PCM/1080p } \end{aligned}$ |
|  | Sink B | Copy Output B display EDID |  |
|  | $\begin{aligned} & \text { 8/2D/ } \\ & \text { PCM/720p } \end{aligned}$ | Standard EDID, <br> Content: deep color/2D3D/audio/ native resolution |  |
|  | $\begin{aligned} & \text { 8/2D/PCM/ } \\ & \text { AC3/720p } \end{aligned}$ | Standard EDID, <br> Content: deep color/2D3D/audio/ native resolution |  |
|  | $\begin{aligned} & \text { 8/2D/ } \\ & \text { PCM/1080p } \end{aligned}$ | Standard EDID, <br> Content: deep color/2D3D/audio/ native resolution |  |
|  | $\begin{aligned} & \text { 8/2D/PCM/ } \\ & \text { AC3/1080p } \end{aligned}$ | Standard EDID, <br> Content: deep color/2D3D/audio/ native resolution |  |


| Main Menu | Sub Menu | Description | Default |
| :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { 8/2D/ } \\ & \text { PCM/4K2K } \end{aligned}$ | Standard EDID, Content: deep color/2D3D/audio/ native resolution |  |
|  | $\begin{aligned} & \text { 8/2D/PCM/ } \\ & \text { AC3/4K2K } \end{aligned}$ | Standard EDID, Content: deep color/2D3D/audio/ native resolution |  |
|  | $\begin{aligned} & \text { 8/2D/PCM/ } \\ & \text { Y420 } \end{aligned}$ | Standard EDID, Content: deep color/2D3D/audio/ native resolution |  |
|  | $\begin{aligned} & \text { 8/2D/PCM/ } \\ & \text { AC3/Y420 } \end{aligned}$ | Standard EDID, Content: deep color/2D3D/audio/ native resolution |  |
|  | Exit |  |  |
| EDID IN1 | Same EDID All | Select Input 1's EDID | Same EDID All |
| EDID IN2 | Same EDID All | Select Input 2's EDID | Same EDID All |
| EDID IN3 | Same EDID All | Select Input 3's EDID | Same EDID All |
| EDID IN4 | Same EDID All | Select Input 4's EDID | Same EDID All |
| EDID IN5 | Same EDID All | Select Input 5's EDID | Same EDID All |
| EDID IN6 | Same EDID All | Select Input 6's EDID | Same EDID All |
| EDID IN7 | Same EDID All | Select Input 7's EDID | Same EDID All |
| EDID IN8 | Same EDID All | Select Input 8's EDID | Same EDID All |


| Main Menu | Sub Menu | Description | Default |
| :---: | :---: | :---: | :---: |
| EDID IN9 | Same EDID All | Select Input 9's EDID | Same EDID All |
| EDID IN10 | Same EDID All | Select Input 10's EDID | Same EDID All |
| Matrix Preset | Preset 1 | IN/OUT default No. 1 | $A=1, B=1$ |
|  | Preset 2 | No. 2 | $A=1, B=1$ |
|  | Preset 3 | No. 3 | $A=1, B=1$ |
|  | Preset 4 | No. 4 | $A=1, B=1$ |
|  | Preset 5 | No. 5 | $A=1, B=1$ |
|  | Preset 6 | N0.6 | $A=1, B=1$ |
|  | Preset 7 | N0.7 | $A=1, B=1$ |
|  | Preset 8 | N0.8 | $A=1, B=1$ |
|  | Preset 9 | N0.9 | $A=1, B=1$ |
|  | Preset 10 | N0.10 | $A=1, B=1$ |
|  | Exit |  |  |

To reset the Preset setting, select a Preset from 1~10 then press OUTA and select an input from 1~10 then press OUTB and select an input from 1~10 again and press ENTER to confirm the selection.

| HDCP Input | IN1 Standard/ <br> Apple | Set IN1 in Apple/ <br> Standard mode | Standard |
| :---: | :--- | :--- | :--- |
|  | IN2 Standard <br> /Apple | Set IN2 in Apple/ <br> Standard mode | Standard |
|  | IN3 Standard <br> /Apple | Set IN3 in Apple/ <br> Standard mode | Standard |
|  | IN4 Standard <br> /Apple | Set IN4 in Apple/ <br> Standard mode | Standard |
|  | IN5 Standard <br> /Apple | Set IN5 in Apple/ <br> Standard mode | Standard |


| Main Menu | Sub Menu | Description | Default |
| :---: | :---: | :---: | :---: |
|  | IN6 Standard /Apple | Set IN6 in Apple/ Standard mode | Standard |
|  | IN7 Standard /Apple | Set IN7 in Apple/ Standard mode | Standard |
|  | IN8 Standard /Apple | Set IN8 in Apple/ Standard mode | Standard |
|  | IN9 Standard /Apple | Set IN9 in Apple/ Standard mode | Standard |
|  | IN10 Standard /Apple | Set IN10 in Apple/ Standard mode | Standard |
|  | Exit |  |  |
| Network Setup | IP Mode | DHCP, Static | DHCP |
|  | IP | Setup Static IP | 192.168.1.50 |
|  | Mask | Setup Static Netmask | 255.255.255.0 |
|  | Gate | Setup Static Gateway | 192.168.5.254 |
|  | Do Re-Link | Re-Link. <br> After setup Network, the system need to relink | --- |
|  | Exit |  |  |
| Network Status | Link | Network status DHCP,Static or Not Linked | --- |
|  | IP | Get IP | --- |
|  | Mask | Get Netmask | --- |
|  | Gate | Get Gateway | --- |
|  | MAC | System MAC Address | -- |
|  | Exit |  |  |


| Main Menu | Sub Menu | Description | Default |
| :---: | :---: | :---: | :---: |
| Source Detection (Detect Source's 5V-pin only) | IN1 On/Off, IN2 On/Off | IN1, IN2 detect source with/without the signal | --- |
|  | IN3 On/Off, in4 On/Off | IN3, IN4 detect source with/without the signal |  |
|  | iN5 On/Off, IN6 On/Off | IN5, IN6 detect source with/without the signal |  |
|  | IN7 On/Off, IN8 On/Off | IN7, IN8 detect source with/without the signal |  |
|  | iN9 On/Off , iN10 On/Off | IN9, IN10 detect source with/without the signal |  |
|  | Exit |  |  |
| Sink A Info | Type, Manuf. | Detect and Analysis Output A display's EDID <br> Content: type(HDMI/ DVI/VGA), <br> Manufactory/Model number | --- |
|  | Native | Content: native resolution |  |
|  | Video Format | Content: deep color, 2D or 3D, 4K2K |  |
|  | Audio Format | Content: PCM, BitStream, HBR |  |
|  | Exit |  |  |
| Sink B Info | Same Sink A Info | Detect and Analysis Output B display's EDID | --- |


| Main Menu | Sub Menu | Description | Default |
| :--- | :--- | :--- | :--- |
| Firmware | FW Version | Display the model <br> number and FW <br> version | --- |
|  | Update | FW Update |  |
|  | Exit |  |  |
|  | Do Reset | Do system Reset | --- |
| Exit | Exit |  |  |

### 6.5 RS-232 Protocols

| Switch |  | Remote Control |  |
| :---: | :---: | :---: | :---: |
| PIN | Assignment | PIN | Assignment |
| 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 |

Baud Rate: 115200 bps
Data bit: 8 bits
Parity: None
Flow Control: None
Stop Bit: 1

### 6.6 IR Pin Definitions



### 6.7 IP Searching Software Application and Installation

Please download the software from www.cypress.com.tw with file name CDPS V2.000 and save it in a directory where you may use it later.

Connect the Control System with PC/Laptop through the Ethernet port through an active network system and open the CDPS V2.000 application. Click on Find Devices on Network and a list of the devices connected to the Control System will show up.


Then user may use the IP Address to find the control device through Telnet, WebGUI or even RS-232/Hyper Terminal tools.

### 6.8 Telnet \& RS-232 Commands

| Command Name | Description | Description of parameter |
| :---: | :---: | :---: |
| PO | Power Off (Standby) | NONE |
| P1 | Power On | NONE |
| A N | Set Output A Source | $N=1-10$ |
| B N | Set Output B Source | $N=1-10$ |
| IN | Set All Outputs Source | $N=1-10$ |
| IPCONFIG | Display The Current IP Configure | NONE |
| SIPADDR XXX.XXX. XXX.XXX | Set Ethernet IP Address | $X X X=0 \sim 255$ |
| SNETMASK XXX.XXX. XXX.XXX | Set Ethernet Net Mask | $X X X=0 \sim 255$ |
| SGATEWAY XXX.XXX. XXX.XXX | Set Ethernet Gateway | $X X X=0 \sim 255$ |
| HTTPPORT N | Set Http Port Number | $\mathrm{N}=0 \sim 65535$ |
| RSTIP | IP Configuration Reset To <DHCP> | NONE |
| EDIDMODE | Show EDID MODE | NONE |
| EDIDMODE N | Set EDID Mode | N=0(Appoint), 1 (All) |
| EDIDALL | Show EDID Mode Source For All | NONE |
| EDIDALL N | Set EDID Mode Source For All | $N=1-10$ |
| EDIDIN | Show Input EDID Source | NONE |
| EDIDIN N1 | Show Input N1 EDID Source | $N 1=1-10$ |
| EDIDIN N1 N2 | Set Input N1 EDID Source | $N 1=1-10 \quad N 2=1-10$ |


| Command Name | Description | Description of paramełer |
| :---: | :---: | :---: |
| HDCPIN | Input HDCP Status | NONE |
| HDCPIN N1 | Show Input N1 HDCP Status | $\mathrm{Nl}=1-10$ |
| HDCPIN N1 N2 | Set Input N1 HDCP On/Off | $\begin{aligned} & \mathrm{N} 1=1-10 \mathrm{~N} 2=0(\mathrm{OFF}), \\ & 1(\mathrm{ON}) \end{aligned}$ |
| PRESET | Show All Preset Configure | NONE |
| PRESET N1 | Set Preset N1 Source to Outputs | $N 1=1-10$ |
| PRESET N1 N2 | Set Preset N1 Configure | $\begin{aligned} & N 1=1-10 \quad N 2=A X B X \\ & (X=01-10,0 M) \end{aligned}$ |
| SOURCEDET | Show All Input Signal | NONE |
| SOURCEDET N1 | Show Input N1 Signal | $\mathrm{Nl}=1-10$ |
| SINKINFO | Show Output Information | NONE |
| INNAME | Show Input Name | NONE |
| INNAME N1 N2 | Set Input N1 Name | $\begin{aligned} & \mathrm{N} 1=1-10 \\ & \mathrm{~N} 2=\mathrm{ABCDEFGH}(\mathrm{Max} \\ & \text { Length=8) } \end{aligned}$ |
| OUTNAME | Show Output Name | NONE |
| OUTNAME N1 N2 | Set Output N1 Name | $\begin{aligned} & \mathrm{N} 1=1-2 \\ & \mathrm{~N} 2=\mathrm{ABCDEFGH}(\mathrm{Max} \\ & \text { Length=8) } \end{aligned}$ |
| VER | Show Unit Firmware Version | NONE |
| REBOOT | System Reboot | NONE |
| HELP (?) | Show Command List | NONE |
| HELP N | Show Descript Of Command | N: COMMAND NAME |


| Command Name | Description | Description of <br> parameter |
| :--- | :--- | :--- |
| FADEFAULT | All Configure Set To <br> Factory Default | NONE |

Note: All the RS-232 command will be not executed unless followed with a carriage return. All commands are case-sensitive.

### 6.9 Telnet Control

To access the telnet control in Windows 7, click on 'Start' menu and type "cmd" in the Search field then press enter.
Under Windows XP go to the 'Start' menu and click on "Run", type "cmd" and press enter.
Under Mac OS X, go to Go $\rightarrow$ Application $\rightarrow$ Utilities $\rightarrow$ Terminal


Once in the command line interface (CLI) type "telnet", then the IP address of the unit and hit enter.

```
Microsoft Vindows [Uersion 6.1.7601]
Copyright <c> 2009 Microsoft Corporation. All rights reserved.
C: N|sers \Administrator> telnet 192.168.1.50
```


## CTF

Type HELP or ? to bring out all the commands.


Note: All the commands will be not executed unless followed by a carriage return. Commands are case-insensitive. If the IP is changed then the IP Address required for Telnet access will also change accordingly.

### 6.10 WebGUI Control

On a PC/Laptop that is connected to an active network system, open a web browser and type device's IP address (available inside the OSD menu) on the web address entry bar. The browser will display device's Status, IO Status, Matrix Control, Settings and Network Configuration control pages for users to control.


Click on Status for input and output and Preset selection.

## IO Status



Click on IO Status to view connection status and output EDID information and to rename input and output ports.

Matrix Control



Click on Matrix Control to set the EDID mode for each and all inputs.

## Settings

| HDCP Control |  |  |  | Preset Configuration |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | INPUT 1 | 1 HDCP Enable |  | PRESET 1: | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 1 | $\checkmark$ |
|  | INPUT 2 | 2 HDCP Enable |  | PRESET 2: | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 2 | $\checkmark$ |
|  | INPUT 3 | 3 HDCP Enable |  | PRESET 3: | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 3 | $\checkmark$ |
|  | INPUT 4 | 4 HDCP Enable |  | PRESET 4: | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 4 | $\checkmark$ |
|  | INPUT 5 | 5 HDCP Enable |  | PRESET 5: | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 5 | $\checkmark$ |
|  | INPUT 6 | 6 HDCP Enable |  | PRESET 6: | OUTPUT A | Input 9 | $\checkmark$ | OUTPUT B | Input 6 | $\checkmark$ |
|  | INPUT 7 | 7 HDCP Enable |  | PRESET 7: | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 7 | $\checkmark$ |
|  | INPUT 8 | 8 HDCP Enable |  | PRESET 8 : | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 8 | $\checkmark$ |
|  | INPUT 9 | 9 HDCP Enable |  | PRESET 9: | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 9 | $\checkmark$ |
|  | INPUT 10 | 0 HDCP Enable |  | PRESET 10: | OUTPUT A | Input 1 | $\checkmark$ | OUTPUT B | Input 10 | $\checkmark$ |
| Status |  | 10 Status | Matrix Control | Settings | Netw | work Con | ratio |  |  |  |

Click on Settings to set each input's HDCP Control and Preset Configuration.


Click on Network Configuration to set the device's IP configuration. Once the changes are saved the system will reset the IP address on device automatically and user will need to re-enter the IP address to continue the WebGUI function.

## 7. CONNECTION DIAGRAM



## 8. SPECIFICATIONS

### 8.1 Technical Specifications

| Video Bandwidth | $300 \mathrm{MHz} / 9 \mathrm{Gbps}$ |
| :---: | :---: |
| Input Ports | $10 \times$ HDMI, $1 \times$ IR Extender, $1 \times$ RJ-45 (Control), $1 \times$ RS-232, $1 \times$ USB (Firmware update only) |
| Output ports | $2 \times \mathrm{HDMI}$ |
| Resolution | HD: 480i~1080p@24/50/60, 4K2K@24/25/30 \& 4K2K@60 YUV_420 |
| HDMI I/O Cable Length | Up to 10M at 1080p@ 8/12 bits or up to 5 M at 4 K 2 K |
| Power Supply | 5V DC/2.6A (US/EU standards, CE/FCC/UL certified) |
| ESD Protection | Human body model: <br> $\pm 8 \mathrm{kV}$ (air-gap discharge) <br> $\pm 4 \mathrm{kV}$ (contact discharge) |
| Dimensions | $438 \mathrm{~mm}(\mathrm{~W}) \times 269 \mathrm{~mm}(\mathrm{D}) \times 44 \mathrm{~mm}(\mathrm{H}) /$ Jacks Excluded <br> $482 \mathrm{~mm}(\mathrm{~W}) \times 276 \mathrm{~mm}(\mathrm{D}) \times 52 \mathrm{~mm}(\mathrm{H}) /$ Jacks Included |
| Weight | 2854g |
| Chassis Material | Metal |
| Silkscreen Color | Black |
| Operating Temperature | $0^{\circ} \mathrm{C} \sim 40^{\circ} \mathrm{C} / 32^{\circ} \mathrm{F} \sim 104^{\circ} \mathrm{F}$ |
| Storage temperature | $-20^{\circ} \mathrm{C} \sim 60^{\circ} \mathrm{C} /-4^{\circ} \mathrm{F} \sim 140^{\circ} \mathrm{F}$ |
| Relative Humidity | 20~90\% RH (no condensation) |
| Power Consumption | 8.3w (Max) |

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8.2 Video Specifications

| DVI and HDMI Supported Resolutions | Input | Output |
| :---: | :---: | :---: |
| 640x480@60/72/75 | V | V |
| $720 \times 480 @ 60$ | $\checkmark$ | $\checkmark$ |
| 720x576p@50 | $\checkmark$ | $\checkmark$ |
| 800x600@60/72/75 | $\checkmark$ | $\checkmark$ |
| 1024x768@60/70/75 | v | V |
| 1280x720@50/60 | V | V |
| 1280x720p@60 | $\checkmark$ | V |
| 1280x768@60 | V | V |
| 1280x800@60 | V | V |
| 1280×1024@60 | v | $\checkmark$ |
| 1360x768@60 | v | V |
| 1600×1200@60 | V | V |
| 1920x1080i@50/60 | V | $\checkmark$ |
| 1920x1080p@24/25/30/50/60 | V | v |
| 1920x1200@60(RB) | V | V |
| 3840x2160@24/25/30 | V | V |
| 3840x2160@50/60 YUV420 | V | V |
| 4096x2160@24/25/30 | v | $\vee$ |
| 4096x2160@50/60 YUV420 | V | V |

