HDMI Matrix System

**HDTVIM88 HDMI Matrix**

User Manual

2016-04-07

## Brief Introduction

HDTVIM88 HDMI matrix with 12V power adapter for multiple HDMI sources to multiple display devices by different routing.
With high reliability, low power consumption, high bandwidth (support HDMI 1.4) features, iM88 can achieve up to 8x8 size.
User can control the matrix by front panel buttons, remote control, PC serial port and RJ45 (local area network, support web control) .
The input/output routing status can displayed on the LCM.

## User control

### 1. Front Panel



**Single Button:**

***Digital Button***:1,2,3,4,5,6,7,8 respectively corresponding with HDMI output 1-8.Loop press digital n(n=1..8), User can select HDMI output n routing status and displayed on the LCM.

***LOCK***： Lock or unlock the front panel button. If locked, the Lock Led will be lighted

**Combination Button**:

***SAVE + n***：Save the current routing status to item n
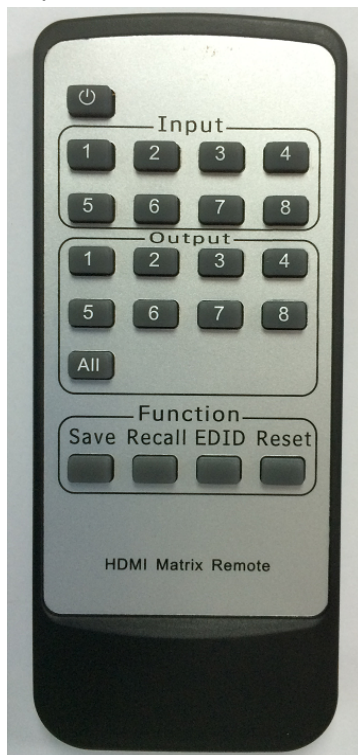***RECALL+ n***：Recall item n routing status to current display
***EDID + 1***：Auto parse EDID；
***EDID + 2***：Manual EDID operation by PC tool；
(n=1,2,3,4,5,6,7,8)

**LCM display:**

LCM displayed with two horizontal lines and eight vertical lines. Horizontal line 1 shows HDMI input ports, Horizontal line2 shows HDMI output port.    Each vertical line shows the routing status.

**IR:**



HDMI Matrix Remote

***Input n1 + Output n2:***
***Output n2+ Input n1:***
Switch the input n1 to output n2;
(n1=1,2,3,4,5,6,7,8)
(n2=1,2,3,4,5,6,7,8)

***All + Input n:***
***Input n + All:***
Switch Input n to all the outputs

***All+Reset:*** Reset the matirx to factory default;

***SAVE + n:***：  Save the current routing status to item n (n=1,2,3,4,5,6,7,8)
***RECALL+ n***：  Recall item n routing status to current display
(n=1,2,3,4,5,6,7,8)
***EDID + 1***：  Auto parse EDID；

***EDID + 2***：  Manual EDID operation by PC tool；

## 2. Back Panel



INPUTS：HDMI input 1,2,3,4,5,6,7,8 which connected to source devices
OUTPUTS：HDMI output 1,2,3,4,5,6,7,8 which connected to sink devices
RS232：PC Tool control,Serial Port
RJ45：PC Tool control,RJ45(local area network)Port

## 3. PC tool user guide

The PC tool has two control modes:one is **UART** mode,the other is **NETWORK** mode.The control mode is stored by configuration file,which is also record the Input names and Output names of user's definition.

The difference between UART mode and NETWORK mode is the transmission media of control command.And the two modes have the same control operation of matrix. Therefore,there will be three parts of PC tool's operation which consists of the connection operation of UART mode, the connection operation of NETWORK mode and the control operation of matrix.

### 3.1 Instruction of connection operation of UART mode:



1）Connect the PC and HDTVIM88 matrix with RS232 cable

2）Double click the **PC tool software**.It will automatically connect to the matrix and work at **UART mode** if this is the 1st execution or it worked at UART mode when it executed last time. If last time it worked at NETWORK mode,you need to click the **UART** radio button,and select the **COM port** which is connected to your computer,then Click the **button** on the right of Status to connect.

3）If the connection is **successful**, the corresponding display will be blue

4) If the connection is **failed**, please **check** the causes and **retry** again according to the software's hint.Usually,the causes may be as follows: No COM port connected to the computer,the COM port is used by other programmes,the matrix is not working well,and so on.

5) The **UART** radio button indicates the current control mode is UART mode.

6) The **combobox** on the right of Port shows the COM ports that connected to the computer. If there's no COM port connected,it will shows COM0,COM1…COM9.

7) The **button** on the right of Status indicates the current status of connection.You can switch the connection status by pressing this button.

**3.2 Instruction of connection operation of NETWORK mode:**



1) **Connect** the matrix and your computer to a same **LAN**. Recommended usage is using a **router** which is working well and the devices can obtain an IP address automatically when they connect to it.
2) Double click the **PC tool software**.It will automatically search the matrix devices and connect to the 1st device by network and work at **NETWORK mode** if it worked at NETWORK mode when it executed last time. If this is the 1st execution or last time it worked at UART mode,you need to click the **NETWORK** radio button,then click the search **button** to search matrix devices,then Click the **matrix device** in the list and click the **button** on the right of Status to connect.
3) If the connection is **successful**, the corresponding display will be blue

4) If the connection is **failed**, please **check** the causes and **retry** again according to the software's hint.Usually,the causes may be as follows: the matrix and your computer is not in a same LAN,the communication port is used by other programmes,the matrix is not working well,and so on.
5) The **NETWORK** radio button indicates the current control mode is NETWORK mode.
6) The **button** on the right of Status indicates the current status of connection.You can switch the connection status by pressing this button.
7) The **search** button can refresh the matrix list when you click it.
8) The search **list** shows the information of the matrix,include device name,device IP address,MAC address,version and so on.
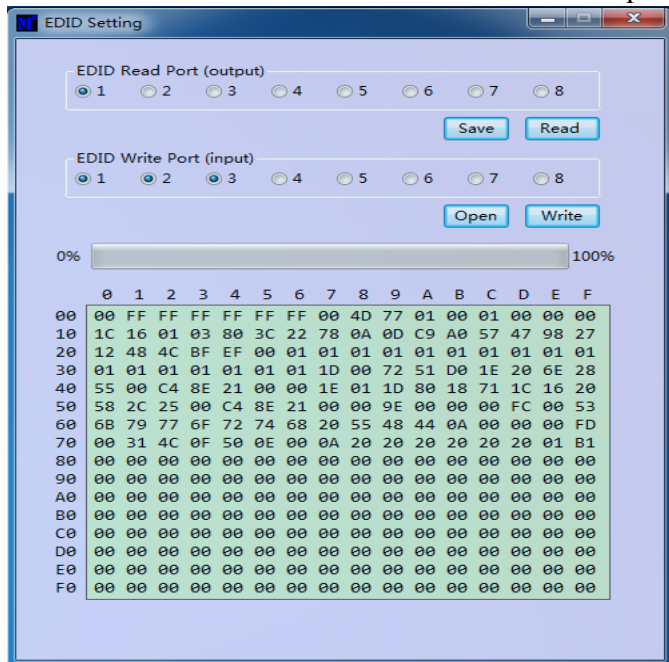
**3.3 Instruction of control operation of matrix:**

1) Click the **rectangle** which is on the right of output port and on the bottom of the input port can switch output port's input source.And the rectangle's color will change to **blue** if the operation is successful.Otherwise,you can try it again.
2) **All set**: Click the drop-down menu to select a input source which will be routed to all HDMI output port.
3) **Recall:** The drop-down menu to recall the item N routing
4) **Save as:** The drop-down menu to save the current routing status to item N status.
5) **Reset:** Reset the matrix configuration.
8) **EDID:** You can open or close the IDID control window by clicking this button.The instruction of operation of EDID control is as below:
**EDID Read Port(Output)**: Select a output port which will do EDID operation.
**EDID Write Port(Input)**: Select input ports which will do EDID operation.
**Save**：Save IDID data to file on your computer.

**Open**：Open and show a file of EDID data.

**Read**：Read EDID data from the selected HDMI port(output).

**Write**：Write EDID data to the selected HDMI port(input).
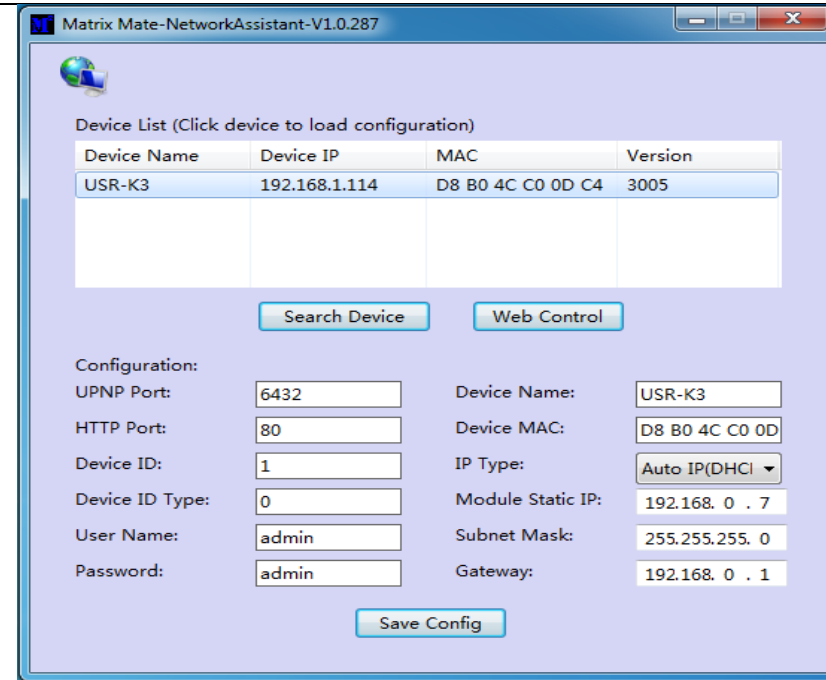
**Note：**

When read EDID from the Sinks,please make sure the cable between Matrix and Sinks(such as TV) connected well,and can normally display.

4.   **Network Assistant user guide**

The **Network Assistant** tool can be used to **search** devices via network and **modify configuration** of the device.

**4.1 Instruction of search devices operation :**

1) Make sure Matrix and PC in **a same LAN**.(For example, you can connect both Matrix and PC to a same router,which is working well. )

2) Double click the **Network Assistant software.**

3) Click **Search Device** button to search devices.The **Device List** will show all the devices if there're some devices in the same LAN with your PC.

4) If there's **no device** in the LAN, you will get a message of **network timeout** from the software.

**4.2 Instruction of modify configuration operation :**

1) **Search** devices and **Load** the device's configuration.
2) **Modify configuration** such as device name, IP type, Module static IP and so on.
3)Click **Save Config** button to save the configuration. And will get some messages from the device after save operation. If failed, please try again.
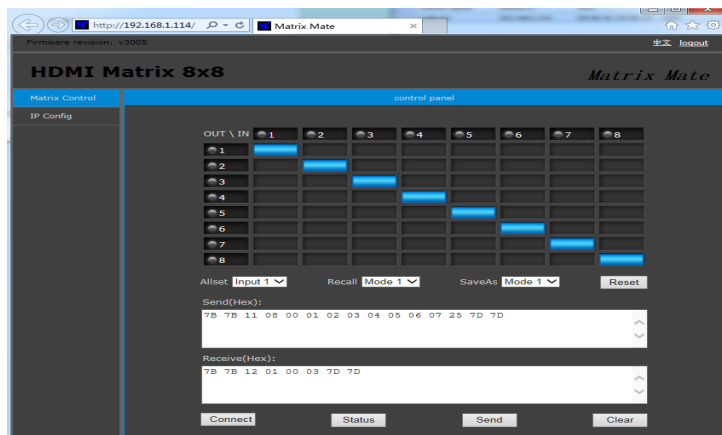4)**Search** devices **again** to refresh the device list, and double check the modification is stored.

## 5.  Instruction of Open Web Control Sytem operation :

1) **Search** devices and **Load** a device's configuration.
2) Click **Web Control** button to open Web Control Sytem.
3) Input **username** and **password** to log in. And the username and password are both "admin" by default.
Note: Your also can input the device's IP address in your Browser to open Web Control System.And the username and password are still needed to log in.
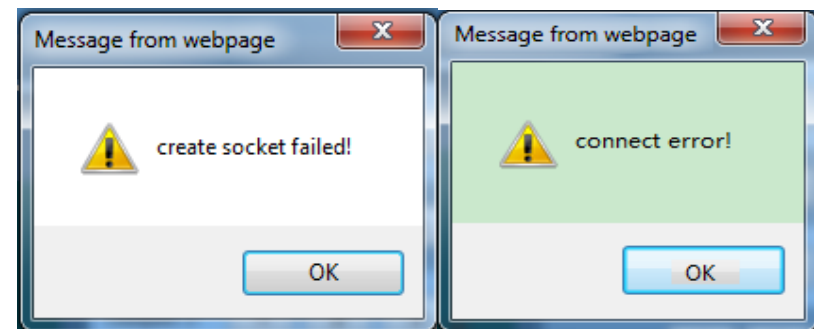
### 5.1 Web Control Sytem

The **Web Control Sytem** can control the matrix device via network.



### 5.2 Instruction of Web Control Sytem operation :

1) **log in** Web Control Sytem.
2) Click the **rectangle** which is on the right of output port and on the bottom of the input port can switch output port's input source.And the rectangle's color will change to **blue** if the operation is successful.Otherwise,you can try it again.

3) **All set**: Click the drop-down menu to select a input source which will be routed to all HDMI output port.
4) **Recall:** The drop-down menu to recall the item N routing
5) **Save as:** The drop-down menu to save the current routing status to item N status.
6) **Reset:** Reset the matrix configuration.

### 5.3  Troubleshooting of Web Control Sytem operation:



1. If your Browser does not support **HTML5** feature, the message of "create socket failed!" will appear .And you should update your Browser to the latest.
2. If you see the message of "connect error!" from your Browser, you can **wait** a few seconds and then click the "**Refresh**" button on the Web Control page, or you can refresh your page again.

**iM88 Parameters**

| Electrical parameters | |
|---|---|
| Interface | HDMI-A |
| HDMI version | HDMI1.4 |
| Bandwidth | 300MHz |
| Resolution | Up to 4Kx2K@30Hz |
| Clock Jitter | <0.15 T bit　(1080p@60) |
| RiseTime | <0.3Tbit (20%--80%) |
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| Transmission Delay | 5ns |
| Amplitude | T.M.D.S +/- 0.4Vpp |
| Differential impedance | 100±15ohm |
| RS232 control | |
| Baud rate and protocol | Baud rate：9600,data bit：8，stop bit：1,No parity checking |
| Power | |
| Max Consumption | 20W |
| Adapter | 12V/3A |
| Matrix Mechanical dimensions | |
| Size(mm) | 430(L)X220(W)X44 (H) |
| Weight | 3Kg |

| Item | Quantity |
|---|---|
| Power Adapter 12V/3A | 1 |
| User Manual CD | 1 |
| Remote control | 1 |
| Matrix | 1 |

**Accessories List**

**Troubleshooting and Maintenance**

1) When flicker or flash point on the screen, please check if the connection is reliable, whether the source is a standby or replace the HDMI cable

2) When user can 't control matrix with PC, please check if com port No. is wrong settle on the PC tool

3）When the POWER led not lighted and no picture displayed,please check if the power adapter connected well and if the power switch in OFF.