HDMI Matrix Switcher Series

ITEM NO.: HS10M 10 x 10 HDMI Matrix Switcher

HS10M 10x10 HDMI Matrix Switch allows you to route 10 HD sources to any 10 HD displays! The **10x10 HDMI Matrix switch** is a complete HD routing solution for whole home HDTV systems. It provides **3D support, Full 1080P,** and with **1U Rack** mountable for professional installations. In addition, the **HS10M** allows for effortless control of up to 10 devices through Ethernet control, Android/IOS App Control, IR remote control, RS-232 and the front panel.


Features:
- Connect up to 10 HDMI source to 10 x HDMI display monitors.
- HDMI 1.4 with 3D, HDCP & DVI Compliant.
- High definition video up to 1080p@60Hz@12bits.
- Easy to use front panel control of switching or using the included remote control.
- Built in Ethernet Control and Android/IOS App Control.
- Built in RS232 console port to select input/output.
- Input/Output status could be displayed at front panel LCM & LED.
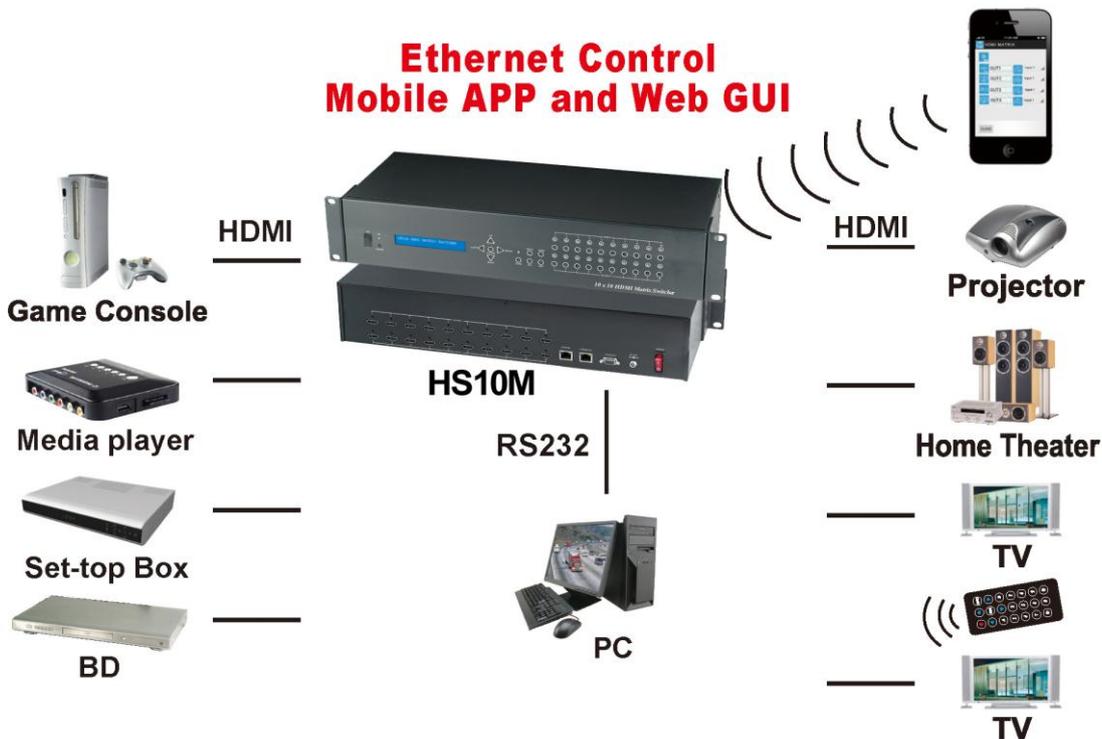
1.0 HS10M Panel View:
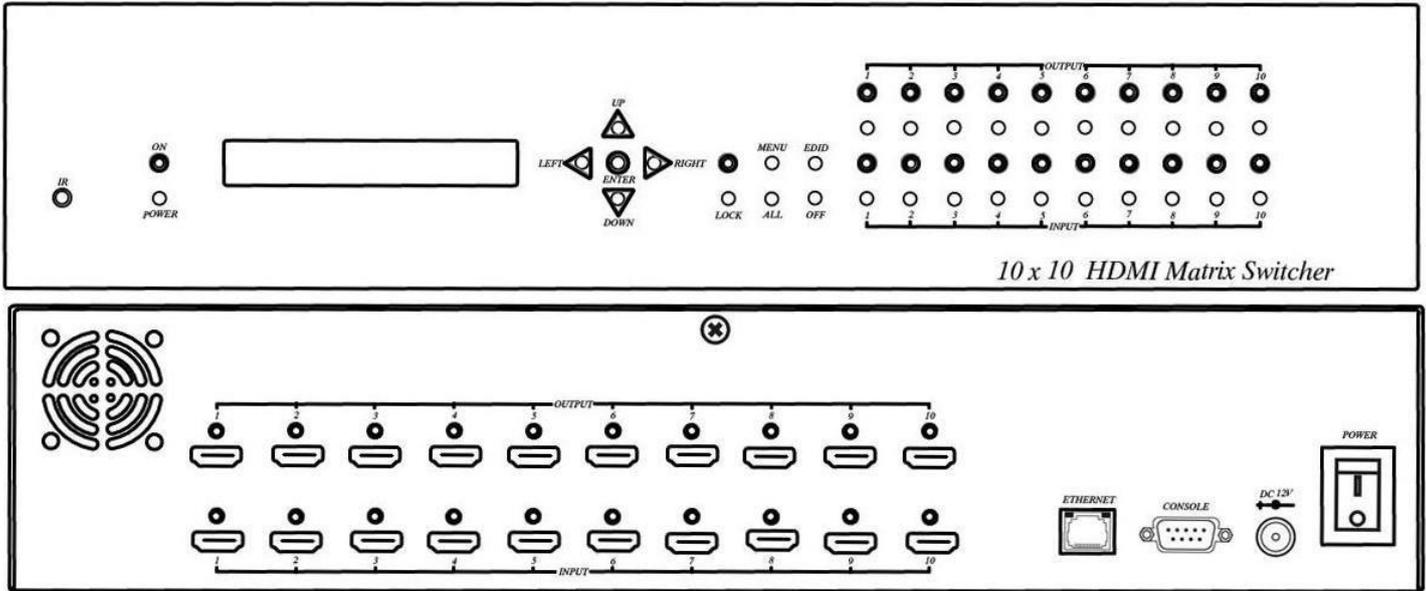
2.0 HS10M Connection View:
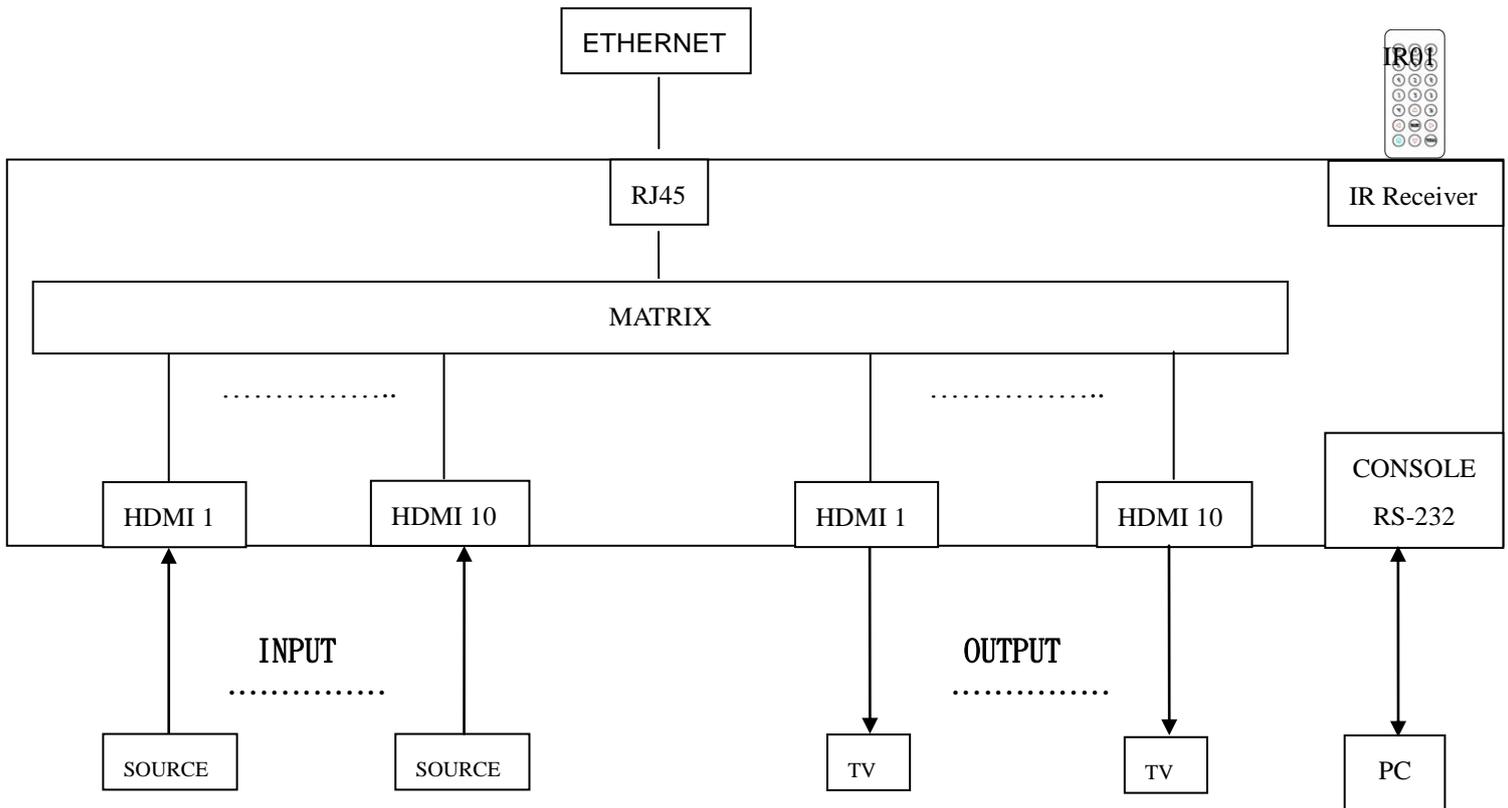
3.0 Keypad and LEDs
3.1 Back Panel Switch:
POWER   Light on   Power on
                        Light off   Power off
3.2 Front LED Indication:
ON   BLUE   Power on
                        RED   Standby
                        LED off   Power Off

INPUT   1, 2, 3, 4   BLUE   Signal indication
                        LED off   No signal

OUTPUT 1, 2, 3, 4   BLUE   HDMI output indications
                        LED off   Output unlink

Standby mode: The IR Remote only could control POWER on/off.
Front Button Function:

Power	Power on/standby
UP	Up
DOWN	Down
LEFT	Left
RIGHT	Right
ENTER	Select confirm key
MENU	Back to main menu
EDID	Copy EDID
LOCK	Button lock
ALL	Set selected input channel to all output
	When press ALL the second line of panel will show IN and flashing, select the input 1~10 then press ENTER
OFF	Turn off selected output, could be 1~10 or ALL
	When press OFF the second line of panel will show IN and flashing, select the input 1~10 or ALL then press ENTER
OUTPUT 1~10	Fast switch output
INPUT 1~10	Fast switch input

*When the sub-menu setting changed, press the ENTER key to complete the setting.   If no press ENTER key, then the setting will be failed.

3.3 LCM Panel Function:

10X10 HDMI MATRIX: Power on Main Screen

When the power is on and the main screen appears, press the MENU key to enter the main menu

Main MENU Option:
*1 - SWITCH SETTING
** 2 - MATRIX IR ID**
** 3 - ETHERNET**
** 4 - EDID**
** 5 - FIRMWARE VER.**
** 6 - MEMORY**

Operation:
- Press UP or DOWN key to move * to select an item for setting and press ENTER key to enter into subpage.
- In MENU you could use key 1~6 of IR remote control to select the functions.
- When the selected sub-page setting is completed, press the MENU button to return to the main page

4.0 LCM Main MENU Function Operations:
4.1 SWITCH SETTING：(Default: 1 2 3 4 5 6 7 8 9 10)

This function is used to switch the input/output port. Enter the SWITCH SETTING menu.   Press the ENTER key, then the LCM second line INPUT will flash. Press LEFT or RIGHT button to select the output to be modified. Then press Up or Down button to select the input port. After that, press ENTER to confirm setting.

```
OUT 1  2  3  4  5  6  7  8  9  10
IN  1  2  3  4  5  6  7  8  9  10
```

4.2 MATRIX IR ID：(Default IR ID: 0)

This function must be set to match the Matrix remote control IR01 with the matrix itself. A conflict with other devices remote control is avoided.

After entering MATRIX IR ID menu, press ENTER, the LCM LINE 1 number will flash.   Then Press UP or DOWN button to select the number, and then press ENTER to confirm.

When finish MATRIX IR ID setting, MATRIX remote control IR01 must also set the same ID in order to operation in normal.

Remote IR ID setting mode: Press and hold the POWER button, then press the number button which can be set from 0 to 9, total 10 groups. (See 5.1)

These settings on IR01 remote control have to be done the first time you use the IR01 or when you change the batteries.

```
 MATRIX IR ID   0
```

4.3 Ethernet

* IP Address
  Subnet Mask
  Gateway
  DHCP Client
  Media Type
  MAC Filter

IP Address: (Default: 192.168.0.200)

```
IP Address
192.168. 0.200
```

This function can be setup MATRIX host intranet "IP Address", press the ENTER, the left-most number of second row will flash, then press the UP or DOWN button to change the numbers, , press LEFT or RIGHT to move to another location, the move to a position number will flash, press ENTER to complete the setting.

Subnet Mask: (Default 255.255.255.0)

```
Subnet Mask
255.255.255.0
```

This function can be setup MATRIX host intranet "Subnet Mask", press the ENTER, the left-most number of second row will flash, then press the UP or DOWN button to change the numbers Press the ENTER, , press LEFT or RIGHT to move to another location, the move to a position number will flash, press ENTER to complete the setting.

Gateway: (Default 192.168.0.1)

```
Gateway
192.168. 0. 1
```

This function can be setup MATRIX host intranet "Gateway", press the ENTER, the left-most number of second row will flash, then press the UP or DOWN button to change the numbers Press the ENTER, , press LEFT or RIGHT to move to another location, the move to a position number will flash, press ENTER to complete the setting.

DHCP Client: (Default Disable)

```
DHCP Client
    Disable
```

When DHCP Clients setup at "Enable", the MATRIX host will automatically get IP Address, Subnet Mask, Gateway, if setup at "Disable", the MATRIX Host IP Address need go through " ETHERNET" menu to set IP Address, Subnet Mask, Gateway, to press the ENTER, the second row will flash, then press the UP or DOWN to select DISABLE, ENABLE, then press ENTER to complete the setting.

Media Type: (Default 100M)

```
Media Type
      100M
```

This function can be setup MATRIX host intranet "Media Type, press the ENTER, the second row will flash, then press the UP or DOWN button to select 10M, 100M, AUTO, press ENTER to complete the setting.

MAC Filter : (Default Disable)

MAC Filter can be setup with registered MAC Address in order to connect the MATRIX host Web UI, MAC Address required by the Web page to fill in, this function can only be setup at "DISABLE", "ENABLE", then to press the ENTER, the second row will flash, then press the UP or DOWN to select DISABLE, ENABLE, then press ENTER to complete the setting.

4.4 EDID: (Default: LPCM-2CH)

Because the player output display resolution will be based on TV EDID, this Matrix provides two default EDID modes:" BUILD-IN MODE" and "COPY MODE".

```
BUILD-IN MODE
  COPY MODE
```

4.4.1 BUILD-IN MODE：
This mode supports video resolution 480p, 720p, 1080i / p at 24/50/60Hz, support LPCM two-channel audio and 5.1 channel. After enter BUILD-IN MODE menu, press UP or DOWN key to select LPCM-2CH or LPCM-5.1CH, then press ENTER to confirm setting.
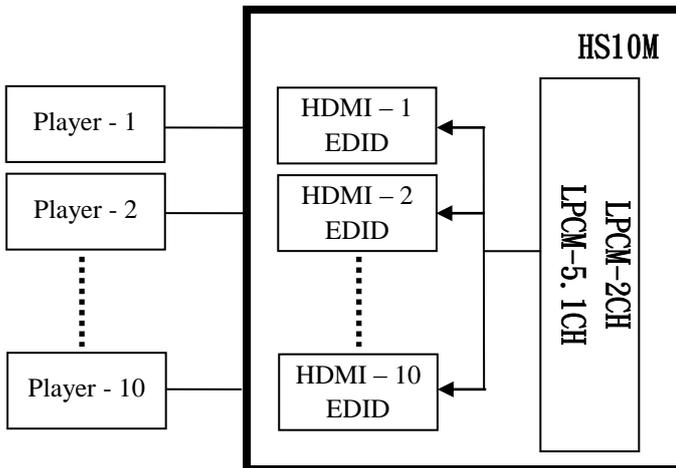
```
LPCM-2CH
LPCM-5.1CH
```

```
BUILD-IN MODE
  COPY MODE
```

BUILD-IN MODE：
This mode supports video resolution 480p, 720p, 1080i / p at 24/50/60Hz, support LPCM two-channel audio and 5.1 channel. After enter BUILD-IN MODE menu, press UP or DOWN key to select LPCM-2CH or LPCM-5.1CH, then press ENTER to confirm setting.

```
LPCM-2CH
LPCM-5.1CH
```


--

COPY MODE：

To fully support the TV resolution and audio mode, the matrix provides "copy mode" to copy TV EDID for input source reference. When use the copy mode, recommend copying the lowest resolution TV EDID. Otherwise it may cause no picture display if the TV resolution is not able to support higher resolution.

After entering COPY MODE menu, press UP or DOWN button to select the OUTPUT (1 to 10). Then press ENTER. Press UP or DOWN button to select the INPUT (1 to 10). Then press ENTER to confirm.

```
From OUTPUT: 1
    To INPUT: 1
```
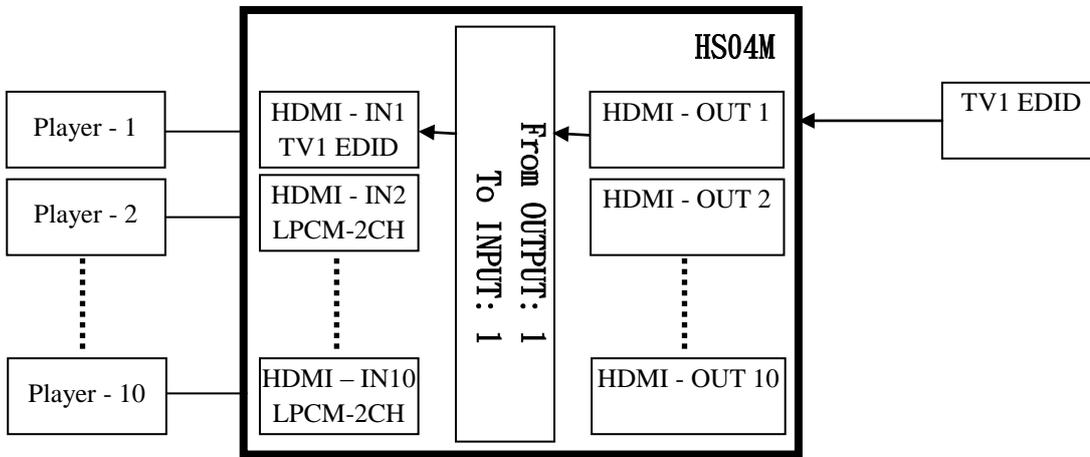

4.5 FIRMWARE VER.:

Display HS10M Matrix firmware version

```
FIRMWARE VER.
 VERSION 1.00
```

4.6 MEMORY:

MEMORY function is to fast reload channel setting for different application.

```
SAVE
LOAD
```

SAVE

Save current channel setting, could be 1~10

```
SAVE MEMORY 1
```

LOAD

Reload saved channel setting, select the number of setting and press ENTER

```
LOAD MEMORY 1
 1 2 3 4 5 6 7 8 9 10
```

5.0 Remote Control Function (IR01):

5.1 To command the matrix locally, setup the remote control IR01 ID with the same code of the Matrix (see 4.2). The default code is 0. (Power+0)

5.2 Warning: These settings have to be done the first time you use the IR01 or when you change the batteries.

● IR ID setup : press and hold POWER button , then press Number key

Remote control button define:

Symbol		Function Side
⏻	Power	ON/Standby (same as Matrix)
◁	LEFT	Left (same as Matrix)
▷	RIGHT	Right (same as Matrix)
△	UP	Up (same as Matrix)
▽	DOWN	Down (same as Matrix)
ENTER	ENTER	Confirm (same as Matrix)
MENU	MENU	Menu (same as Matrix)
1		Quick key1
2		Quick key2
3		Quick key3

④	Quick key4
⑤	Quick key5
⑥	Quick key6
⑦	Quick key7
⑧	Quick key8
⑨	Quick key9
⑩	Quick key10
✳	EDID
#	OFF

For example: to connect output port 1 to input port 4, press the quick key 1 (OUTPUT 1) and then press the quick key 4 (INPUT 4).

* Under using quick key operation, LCM screen will jump to the output / input setting page; it won't allow using the front panel button to operate the HS10M Matrix.

6.0 RS232 Computer Local Control Function：（CONSOLE）
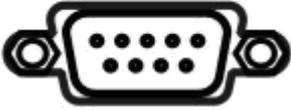
6.1 Connect the RS232 CONSOLE port to the COM port of the host by an F/M RS232 straight cable (pin 2 to pin 2; pin 3 to pin 3, pin 5 to pin 5).

The Matrix communication format is 9600, 8, N, 1 (9600 bps, 8 data bits, no parity check, 1 stop bit)

6.2 Operation Instruction format:

Command + Space + parameter + Enter
Command are **case insensitive**
The Matrix will reply **OK** once string is correct, **NG** in case of incorrect string

TX[x] [y]   is the string to switch on output x the input y
PWR   [z]   is the string to put the matrix in Standby and On status

[SYMBOL]	[PARAMETER]	[DESCRIPTION]
x	01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A	Output 1~10
y	01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 00	Input 1 to 4, 00: Off
z	00 | 01	00: Standby, 01: On

Example:

-To route input 4 to output 1, send the following string:

Command

TX01 04   Enter

-To route input 2 to output 3, send the following string:

Command

TX03 02   Enter

-To put in standby the matrix, send the following string:

Command

PWR 00   Enter

7. Ethernet Control Function:

Initial IP Configuration

1. Setup MATRIX IP Address same as your PC with same domains.(Default 192.168.0.200)
   MATRIX IP Address method, please refer. to "ETHERNET" Chapter
2. Input IP Address on a web page, you could link to the Web UI of the MATRIX host.
3. Web UI Operation :

SWITCH SETTING:

- **Power** : Control MATRIX power on and standby.
- **Output** : Display output 1~10, it can change the display name by the Aliases page.
- **Input** : Display input 1~10, this field is a drop down menu, this field is a drop-down menu, a drop-down menu include Input 1 ~ 10 and OFF, It can change the display name by the Aliases page.
- **Reload** : Get MATRIX host message.
- **Advanced** : Enter into the "Advanced" page.
- **Apply** : Complete the setting

Advanced:

- ● **IP address** : Change **IP address**
- ● **Subnet mask** : Change **Subnet mask**
- ● **Gateway IP** : Change **Gateway IP**
- ● **Media Type** : Change **10 / 100 / Auto detect**
- ● **DHCP Client** : When setup at **Enable,** the MATRIX host will automatic get **IP Address、 Subnet Mask、Gateway,** If setup at **Disable, the MATRIX** host **IP Address、Subnet Mask、 Gateway** need to set from Advanced page.
- ● **Auto Reset** : The terminal connection people will be 4 users on line at same time, this function could setup the linking time to avoid long time linking and other user can not used. When over the setting link time, the terminal will automatically disconnect the link. . (0: no time setup, 1 ~ 255 Minute time range that can be setup)
- ● **Memory** : Click to enter **Memory** setup page
- ● **MAC Filter** : Click to enter **MAC Filter** setup page
- ● **Aliases** : Click to enter **Aliases** setup page
- ● **Device Name** : Can change device name
- ● **Back** : Back to **SWITCH SETTING** page
- ● **Online** : Terminal connection users display, the max. 4 users on line.

Aliases:

- **Aliases** page can change input/output name, enter **Apply to finish the setting after change The new name will update and correspond to SWITCH SETTING** page **Output / Input.**
- Press Back jump back to **advanced** page.

MAC Filter:

- **MAC Filter can be setup as registered　MAC Address to link MATRIX host　Web UI，the max. up to 10 groups　MAC Address**
- **After MAC Address fill in, select Enable** and press **Apply to complete the setting.**
- Press **Back** jump to **advanced** page.

MEMORY:

MATRIX
Memory

Save		Load	
Save1	Save6	Load1	Load6
Save2	Save7	Load2	Load7
Save3	Save8	Load3	Load8
Save4	Save9	Load4	Load9
Save5	Save10	Load5	Load10
Back			

- **Save** : Save 10 set of channel settings
- **Load** : Reload 1 of the channel settings
- **Back** : Back to **Advanced** page

Specification:

ITEM NO	HS10M
HDMI Resolution	1080p @ 60Hz 12bit，3D
Video Input Interface	HDMI Type A x 10
Video Output Interface	HDMI Type A x 10
RS-232 Input/Output Interface	DB9 x 1(CONSOLE)
IR Receive Angle	± 45 degree
IR Receive Distance	5M
Power Adapter	DC 12V 4.2A
Power Consumption	2A
Temperature	Operation: 0 to 55℃, Storage: -20 to 85℃, Humidity: up to 95%
Dimension mm	483 x 197 x 88
Weight g	4800

RoHS CE FC C

Rev. A