

ITEM NO.: HS10M 10 x 10 HDMI Matrix Switcher

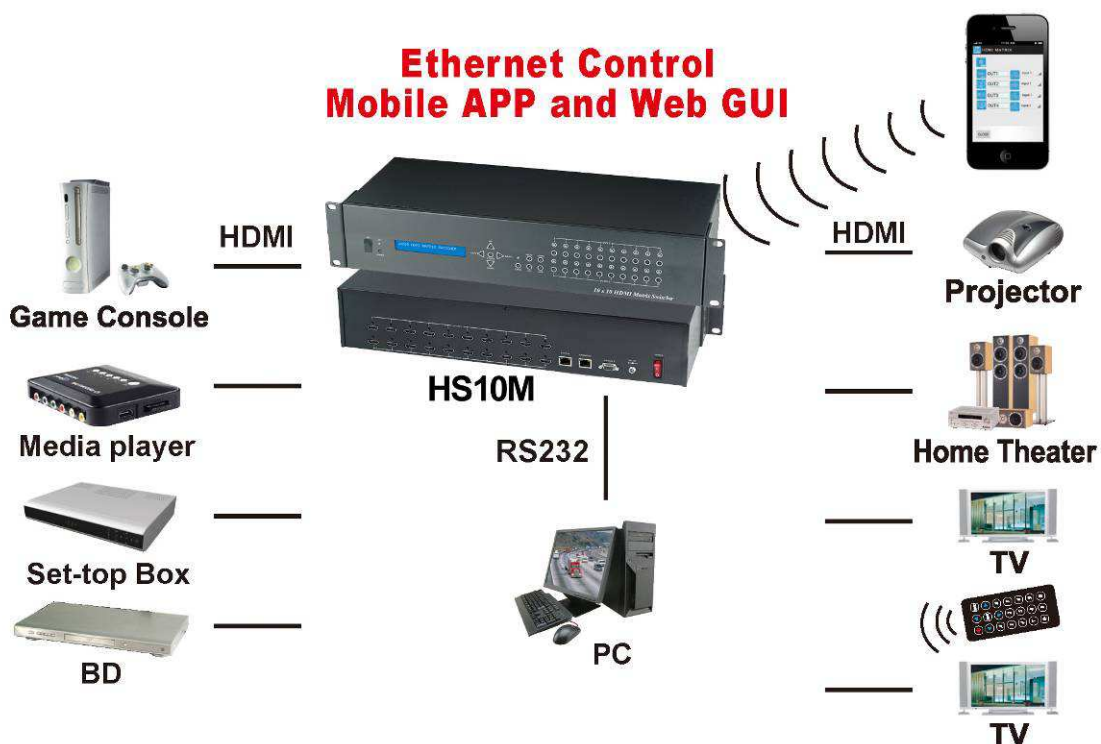
HS10M is a 10x10 HDMI Matrix Switcher that allows you to route 10 HD sources to any 10 HD displays. The HS10M Matrix switcher is a complete HD routing solution for home and professional HDTV systems.

It provides **4K2K** and **3D** support and is housed in a 19" 2RU for professional installations. In addition, the HS10M can be controlled by the front panel keypad, RS232, IR Remote Control, through Ethernet (GUI) and by Android/IOS App.

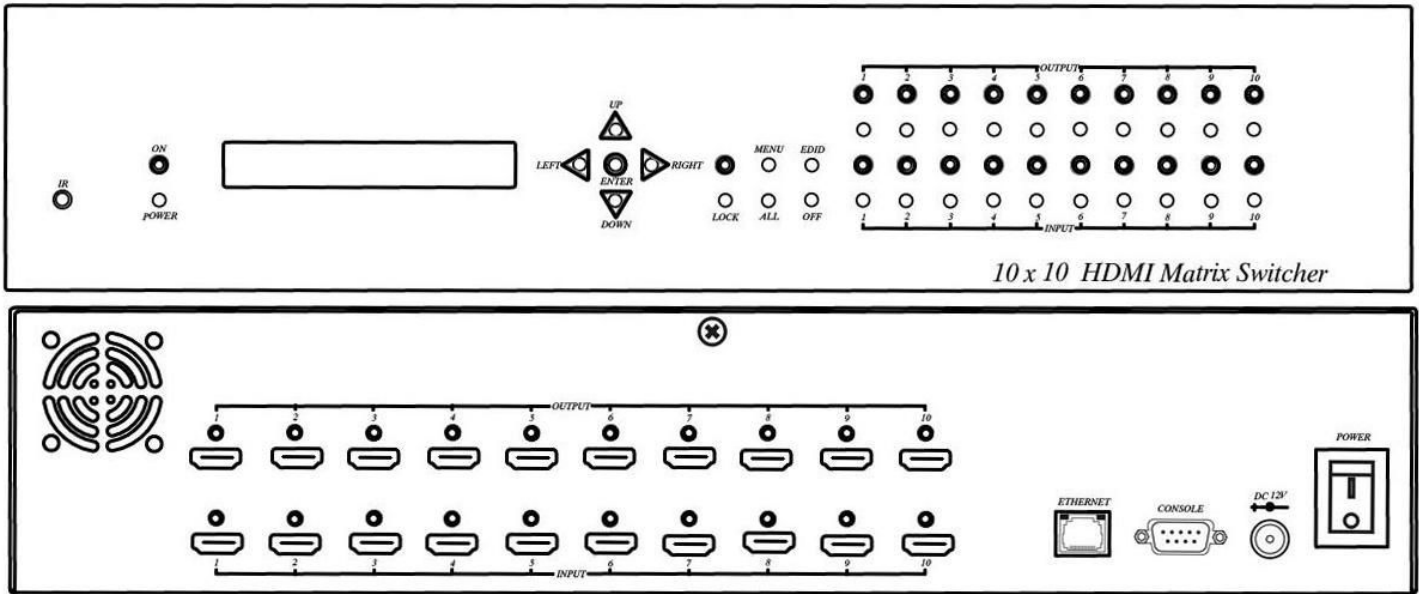


Features:

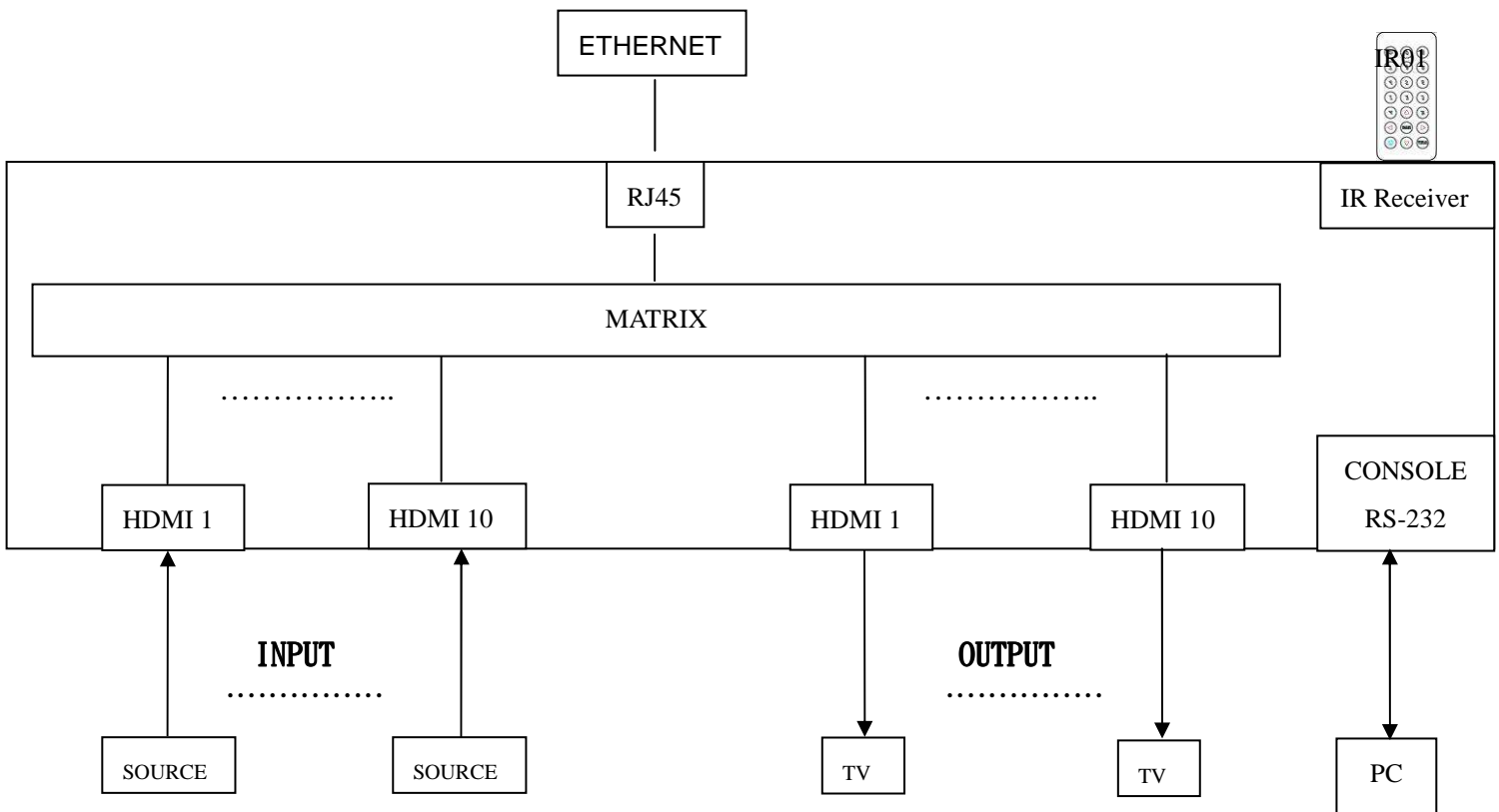
- Connect up to 10 HDMI source to 10 HDMI display monitors.
- HDMI 1.4 with 3D, HDCP and DVI Compliant.
- High definition video up to 4K2K 24/25/30Hz 8 bit and 1080p 60Hz 12 bits.
- Easy to use front panel control of switching or using the included remote control.
- Built in Ethernet Control and Android/IOS App Control.
- Built in RS232 console port providing complete commands set
- Input/Output status could be displayed at front panel LCM and 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 1~10	BLUE	Signal indication
	LED off	No signal
OUTPUT 1~10	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/channel setting
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 leds flashing, select the input 1~10 then press ENTER
OFF	Turn off selected output, that could be 1~10 or ALL. When press OFF the second line of panel will show IN leds flashing, select the output 1~10 or ALL, then press ENTER
OUTPUT 1~10	Fast switch output
INPUT 1~10	Fast switch input

3.3 Panel button Function:

OUTPUT 1~10 and INPUT 1~10

Press OUTPUT 1~10 to select output port, then the input at IN line of LCM will blink, press INPUT 1~10 to select input port to switch the channel

ALL :

Press ALL button, the IN line of LCM will blink, press INPUT 1~10 to select input port to all output port.

OFF :

Press OFF button, the IN line of LCM will blink, press OUTPUT 1~10 or ALL to select which port to turn off

EDID :

Press EDID button, it will show "From OUTPUT" at second line of LCM and the channel number will blink, press OUTPUT 1~10 to select which port to copy EDID.

LOCK :

Press LOCK till LOCK LED on then the panel button and IR remote control of MATRIX will be locked. Press LOCK till LOCK LED goes off to unlock.

*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:

Power on Main Screen

When the power is on and the main screen appears

10X10 HDMI MATRIX

Channel Setting on Main Screen

The Matrix will jump to channel setting screen after 10 seconds, press the MENU key to enter the main

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

Main MENU Option:

- *1 - SWITCH
- 2 - SCENE
- 3 - ETHERNET
- 4 - EDID
- 5 - REMOTE ID
- 6 - VERSION

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 : (Default: 1 2 3 4 5 6 7 8 9 10)

This function is used to switch the input/output port. Enter the SWITCH 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 to be routed on the selected output. After that, press ENTER to confirm setting.

It also works with INPUT/OUTPUT button of panel or IR remote

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

4.2 SCENE:

SCENE function provides up to 10 sets of channel setting (status) to fast reload for different application.

LOAD
SAVE

LOAD (Recall)

To Reload (recall) a saved scene, press UP or DOWN to select the number, then ENTER to load.

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

SAVE

To Save current channel setting (status), press UP or DOWN to select the number and then ENTER to save.

SAVE 1

4.3 Ethernet

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

IP Address: (Default: 192.168.0.10)

IP Address 192.168. 0.10

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 new position number will flash, press the UP or DOWN button to change the numbers and at the end 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 LEFT or RIGHT to move to another location. The new position number will flash, press the UP or DOWN button to change the numbers and at the end 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 LEFT or RIGHT to move to another location. The new position number will flash, press the UP or DOWN button to change the numbers and at the end 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 needs to go through “ ETHERNET” menu to set IP Address, Subnet Mask, Gateway. 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 AUTO)

**Media Type
AUTO**

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 AUTO - 10MHalf - 10MFull - 100MHalf - 100MFull, then press ENTER to complete the setting.

MAC Filter : (Default Disable)

**MAC FILTER
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: 1080P LPCM-2CH)

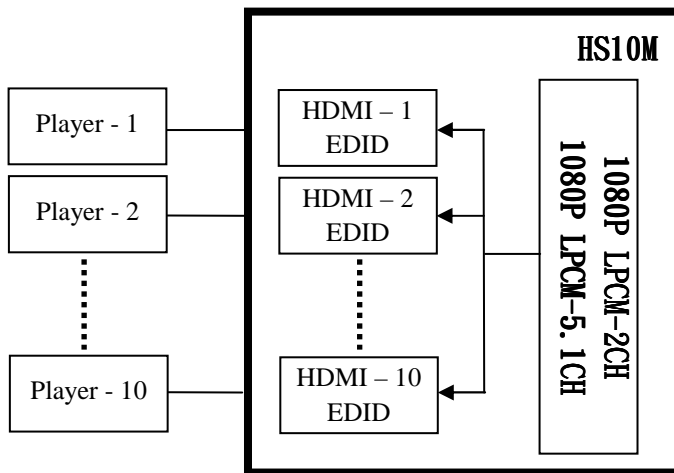
Because the player output display resolution will be based on TV EDID, this Matrix provides two default EDID modes: "BUILD-IN MODE" and "COPY MODE".

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 1080P LPCM two-channel audio and 5.1 channel. After enter BUILD-IN MODE menu, press UP or DOWN key to select 1080P LPCM-2CH or 1080P LPCM-5.1CH, then press ENTER to confirm setting.

1080P LPCM-2CH
1080P LPCM-5.1CH

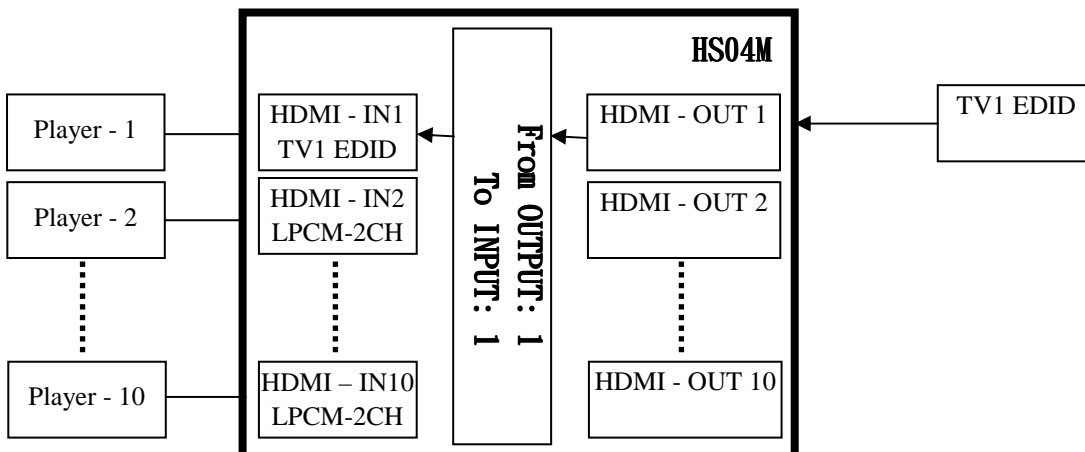


COPY MODE :

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 to confirm.

COPY MODE
From OUTPUT: 1



4.5 REMOTE ID : (Default IR ID: 4)

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 is finished the MATRIX IR ID setting, the remote control IR01 of the MATRIX **must also be set with the same ID** in order to permit the normal operation.

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 4

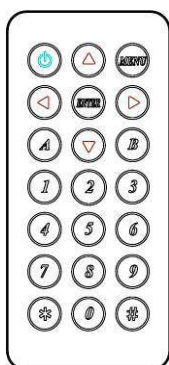


4.6 VERSION:

Display Matrix and WEB firmware version

MATRIX VERSION 1.00
WEB VERSION 1.00

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 4. (Power+4)

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



Power



LEFT



RIGHT



UP



DOWN



ENTER



MENU



Quick key1



Quick key2



Quick key3



Quick key4



Quick key5

Function Side

ON/Standby (same as Matrix)

Left (same as Matrix)

Right (same as Matrix)

Up (same as Matrix)

Down (same as Matrix)

Confirm (same as Matrix)

Menu (same as Matrix)



Quick key6



Quick key7



Quick key8



Quick key9



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).

***IR remote can only power on the matrix at standby mode.**

GATEWAY△[x.x.x.x]	Set Matrix gateway
MEDIA_TYPE△[z]	Network speed select
MAC_FILTER△[y]	Mac filter on/off
STATUS	Show connection status
VERSION	Show firmware version
HELP	Help

[Symbol]	[Parameter]
m	01~10, ff =ALL
n	00=off, 01~10=1~10
p	00~09=0~9
x	0~255
y	00=off, 01=on
z	00=auto, 01=10M, 02=100M

Examples:

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

TX01△04Enter

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

RX02△ffEnter

-To route input 2 to output 1,2,4, send the following string:

RX02△01,02,04Enter

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

POWER△00Enter

Commands are **case insensitive**.

The Matrix will reply **OK** once string is correct, **NG** in case of incorrect string

7. Web 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. Type IP Address on a web page, you could link to the Web UI of the MATRIX host.
3. Web UI Operation :

SWITCH SETTING:

MATRIX

SWITCH SETTING

MATRIX-01

Power	Output	Input	
Power Off ▾	Output 1	Input 1 ▾	Reload
	Output 2	Input 2 ▾	Advanced
	Output 3	Input 3 ▾	
	Output 4	Input 4 ▾	Apply
	Output 5	OFF	
	Output 6	Input 1	
	Output 7	Input 2	
	Output 8	Input 3	
	Output 9	Input 4	
	Output 10	Input 5	
		Input 6	
		Input 7	
		Input 8	
		Input 9	
		Input 10	

- **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, that includes Input 1 to 10 and OFF. It's possible to change the display name by the Aliases page.
- **Reload** : Get MATRIX host message.
- **Advanced** : Enter into the "Advanced" page.
- **Apply** : Complete the setting

Advanced:

MATRIX

Advanced

IP address	192.168.0.10
Subnet mask	255.255.255.0
Gateway IP	192.168.0.1
Media Type	Auto detect ▼
DHCP Client	Disable ▼
Auto Reset (No data input)	2 (1 ~ 255 Minute)
Device Name	MATRIX-01

MAC address OnLine

MemoryMAC FilterAliasesBackApply

- **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:

Output		Input	
Output 1	Output 1	Input 1	Input 1
Output 2	Output 2	Input 2	Input 2
Output 3	Output 3	Input 3	Input 3
Output 4	Output 4	Input 4	Input 4
Output 5	Output 5	Input 5	Input 5
Output 6	Output 6	Input 6	Input 6
Output 7	Output 7	Input 7	Input 7
Output 8	Output 8	Input 8	Input 8
Output 9	Output 9	Input 9	Input 9
Output 10	Output 10	Input 10	Input 10

Back Apply

- **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** on page **Output / Input**.
- Press Back jump back to **advanced** page.

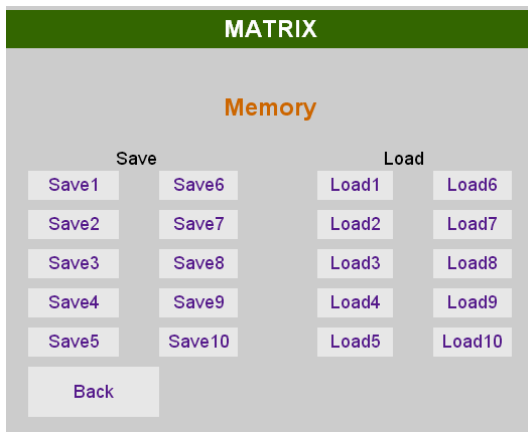
MAC Filter:

MAC Filter	Enable
MAC address 1	11-22-33-44-55-66
MAC address 2	00-00-00-00-00-00
MAC address 3	00-00-00-00-00-00
MAC address 4	00-00-00-00-00-00
MAC address 5	00-00-00-00-00-00
MAC address 6	00-00-00-00-00-00
MAC address 7	00-00-00-00-00-00
MAC address 8	00-00-00-00-00-00
MAC address 9	00-00-00-00-00-00
MAC address 10	00-00-00-00-00-00

Back Apply

- **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.

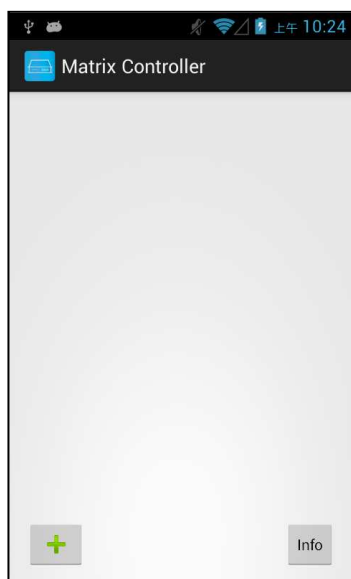
MEMORY:



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

8. Android APP Function: (Google Play : <https://play.google.com/store/apps/details?id=sct.com.matrixcontroller>)

Main Page:

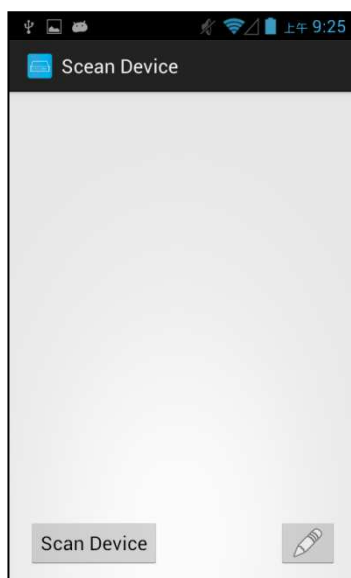


When first time enter the APP will see the main page

Bottom left 「 + 」 to add matrix

Bottom right 「 Info 」 to show information

Scan Device



Touch 「 + 」 button at main screen to enter 「 Scan Device 」 page

Touch bottom left 「 Scan Device 」 to start scan

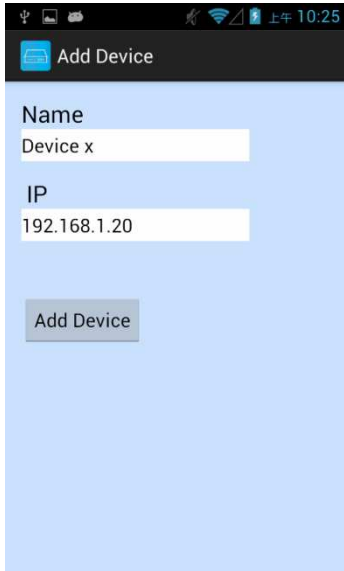
Touch bottom right pen icon to input the IP address manually

Add Matrix

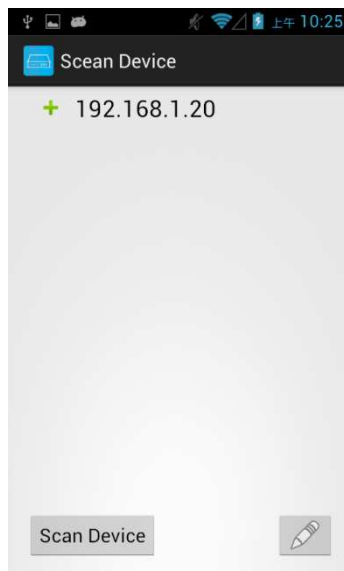


After scanning it will show all matrixes in the list

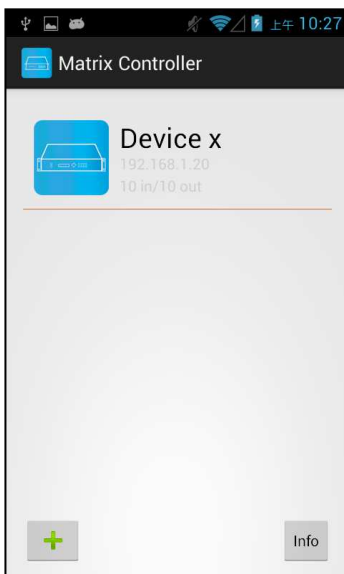
Touch the IP in list to enter 「 Add Device 」 page



Enter the name of matrix then touch 「 Add Device 」 to finish setting
Notice : Name should be unique, not allow duplicate

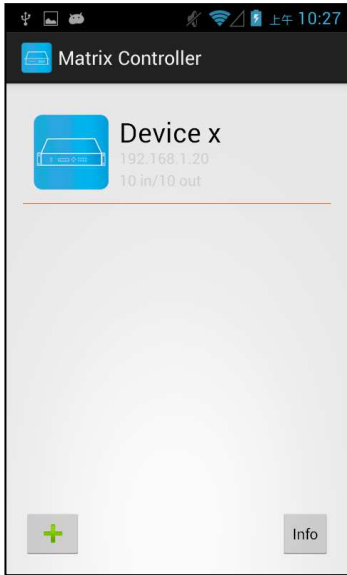


It will show 「 + 」 icon in front of the IP address when finished

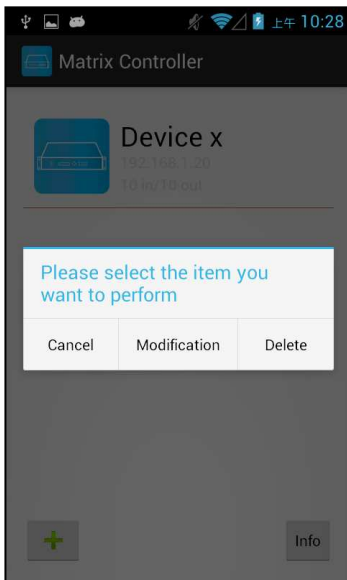


Return to main screen you will see the matrix which just add

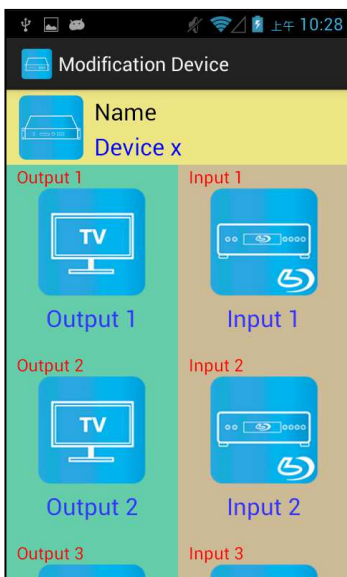
Modify Device



Press the matrix name to show pop-up dialog



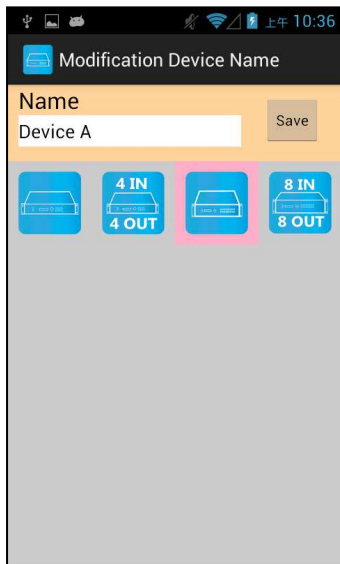
Touch 「Modification」 to enter modification page.



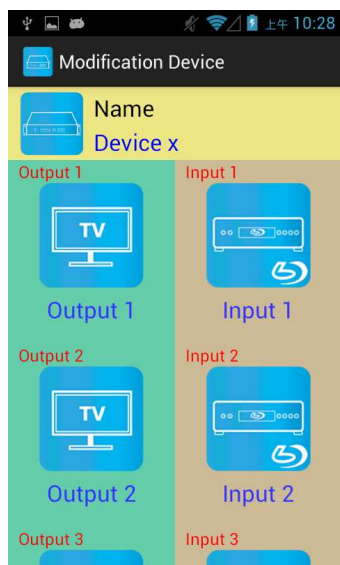
Yellow block shows matrix name and icon

Green block shows name and icon of output devices

Brown block shows name and icon of input devices



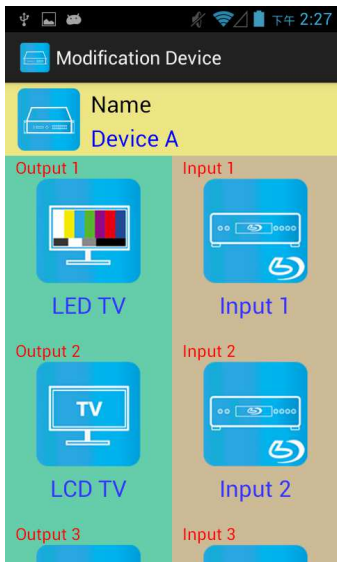
Touch yellow block to modify matrix name and icon
 Input the name and select the icon you prefer then touch 「 Save 」 to finish



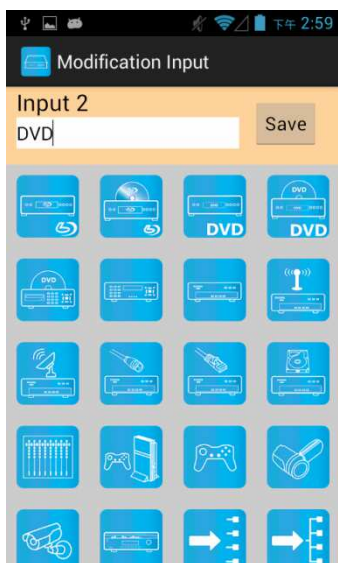
Return to Modification page you will see the matrix have been changed



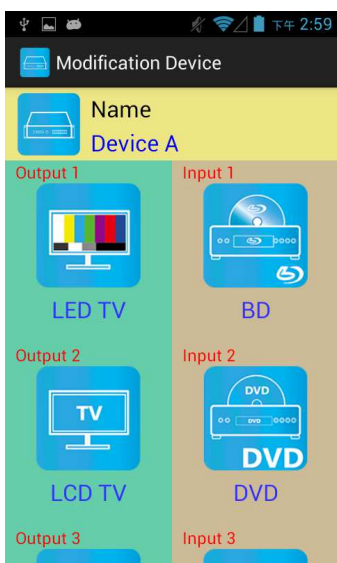
Touch green block to modify output name and icon
 Input the name and select the icon you prefer then touch 「 Save 」 to finish



Return to Modification page you will see the output have been changed

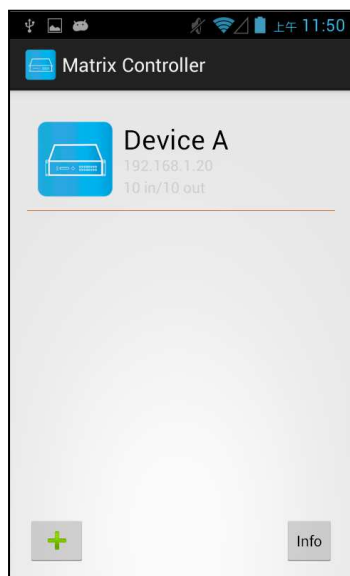


Touch brown block to modify input name and icon
 Input the name and select the icon you prefer then touch 「 Save 」 to finish



Return to Modification page you will see the input have been changed

Output Channel Switching



Left : icon for matrix

Center upper big font for matrix name,

Center middle small font for matrix IP

Center lower small font for matrix type (4 by 4 or 10 by 10)

Notice: if shows 「Specify the host does not exist」 means the matrix not exist

Touch the block of matrix to enter Controller page



Top right 「Refresh」 to renew the status of matrix

Below 「Refresh」 button to power on/off the matrix

The block under device are Output 1~ Output 10
(4 by 4 matrix only shows Output 1~Output 4)

Left side shows output device name

Right sideshows current input device name

Bottom left 「Save Scene」 to save the scenes

Bottom right 「Load Scene」 to load the scenes



Touch output block to enter Channel Selection page



Touch input device to switch or ON/OFF icon to power on/off



It will return to Controller page after switching and refresh the status of channel

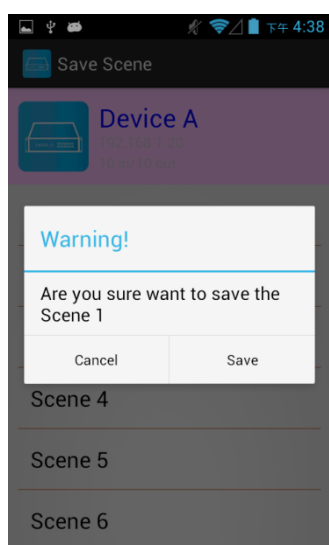
Save Scene



In Controller page touch bottom left 「 Save Scene 」 to enter Save Scene page



Touch the Scene column to show pop-up dialog



Touch 「 Save 」 to save current channels setting for all output
It will return to Save Scene page automatically.

Notice: if it shows " Please update device firmware" means your matrix do not support this function, please upgrade your firmware to enable this function

Load Scene



In Controller page touch bottom right 「Load Scene」 to enter Load Scene page



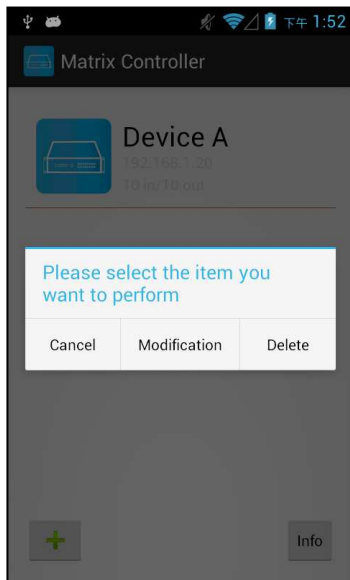
Touch scene column to load saved channels setting for all output
It will return to Load Scene page automatically. (Default is Output 1 to Input 1, Output 2 to Input 2 and so on...)

Notice: if it shows " Please update device firmware" means your matrix do not support this function, please upgrade your firmware to enable this function

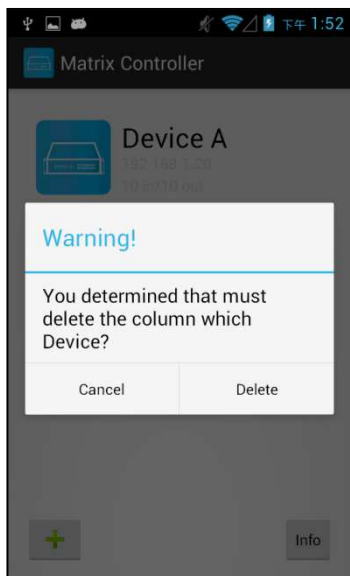


It will return to Controller page after switching and refresh the status of channel

Delete Matrix



Press the block of matrix in Controller page to show pop-up dialog then touch 「Delete」



Touch 「Delete」 to delete the matrix

9. iOS APP Function:

iTunes Download Link

<https://itunes.apple.com/us/app/matrix-control/id904487754?l=zh&ls=1&mt=8>

iTunes Download QR code



System Setting

Connect mobile phone to Wi-Fi and set the IP/ subnet mask same with matrix network segment

Default IP address of 10 by 10 matrix is 192.168.0.10

Default IP address of 4 by 4 matrix is 192.168.0.200

Default subnet mask is 255.255.0.0

You could also set to DHCP mode, please refer user manual

There are two ways to get the IP address of matrix:

1. Use APP function: Scan Device to get the IP address.
2. Use panel button or IR remote control by press [MENU], select to [ETHERNET] function and press [ENTER] to enter [IP Address] function than press [ENTER], it will show IP Address in the LCD panel of matrix

Main Page



When first time enter the APP will see the main page

Top left 「+」 to add matrix

Top right 「Edit」 to enter delete mode

Bottom right 「Info」 to show information

Scan Matrix

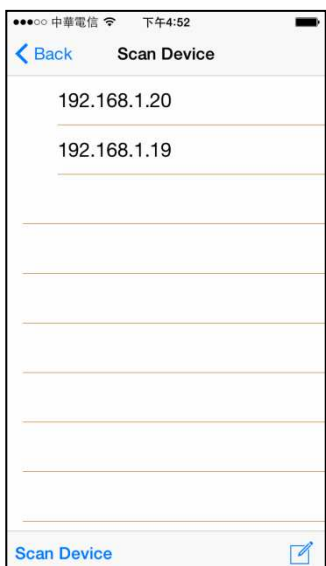


Touch 「+」 button at main screen to enter 「Scan Device」 page

Touch bottom left 「Scan Device」 to start scan

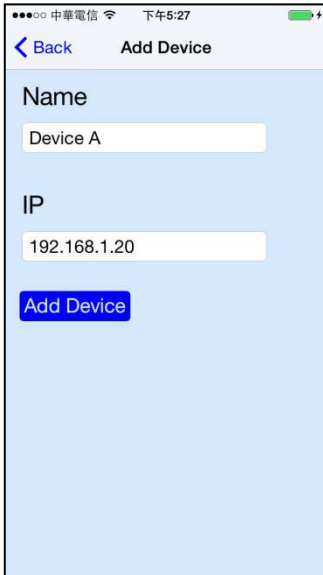
Touch bottom right pen icon to input the IP address manually

Add Matrix

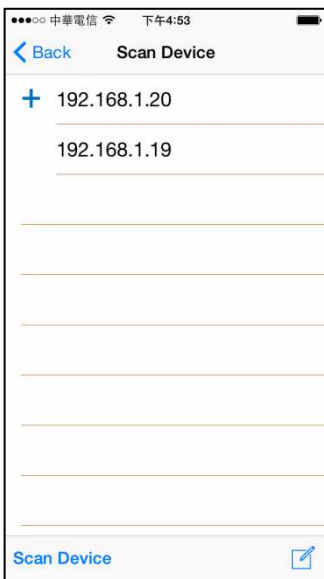


After scanning it will show all matrixes in the list

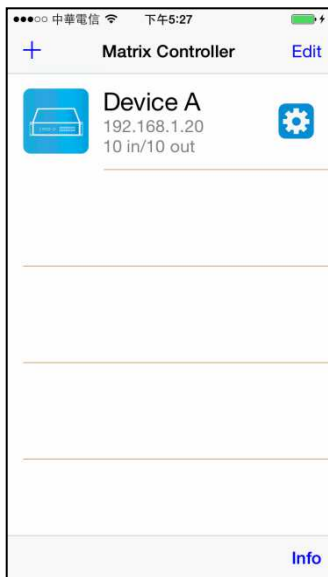
Touch the IP in list to enter 「Add Device」 page



Enter the name of matrix then touch 「 Add Device 」 to finish setting
Notice : Name should be unique, not allow duplicate

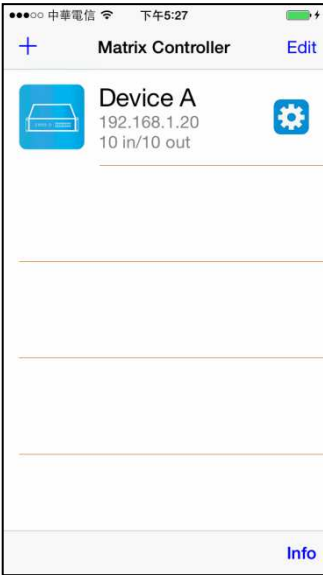


It will show 「 + 」 icon in front of the IP address when finished

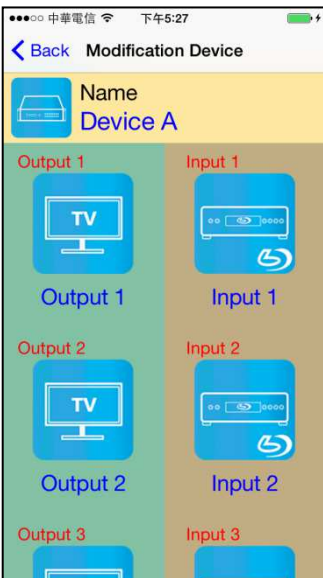


Return to main screen you will see the matrix which just add

Modify Device



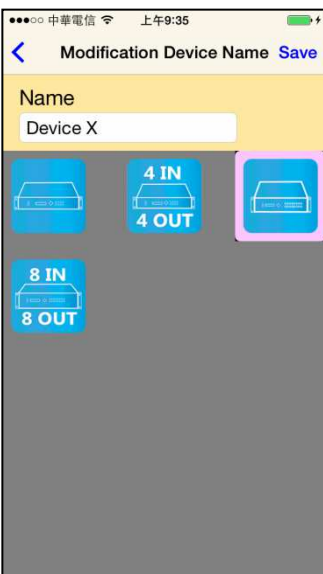
Touch the gear icon to enter Modification page



Yellow block shows matrix name and icon

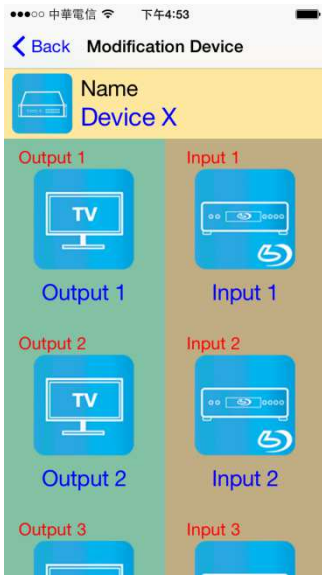
Green block shows name and icon of output devices

Brown block shows name and icon of input devices

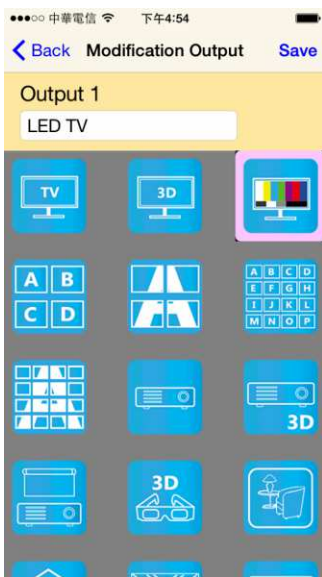


Touch yellow block to modify matrix name and icon

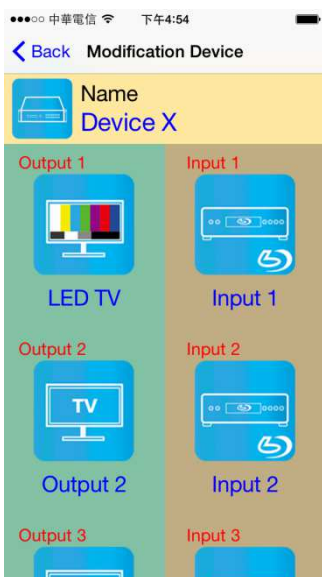
Input the name and select the icon you prefer then touch 「 Save 」 to finish



Return to Modification page you will see the matrix have been changed



Touch green block to modify output name and icon
 Input the name and select the icon you prefer then touch 「 Save 」 to finish

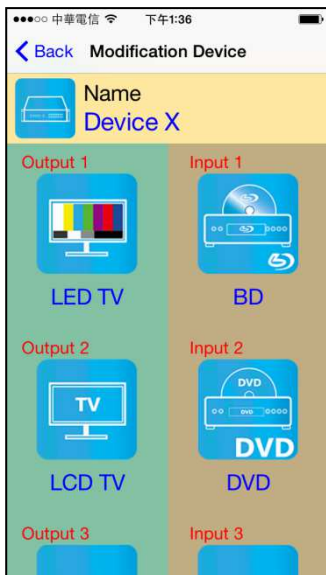


Return to Modification page you will see the output have been changed



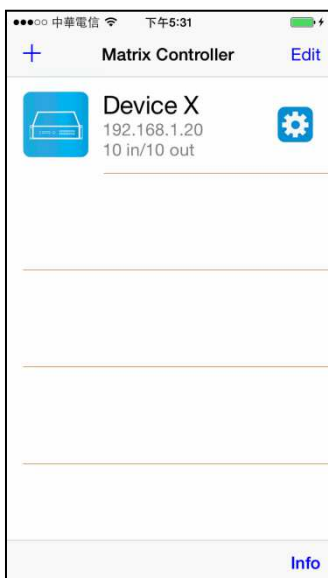
Touch brown block to modify input name and icon

Input the name and select the icon you prefer then touch 「 Save 」 to finish



Return to Modification page you will see the input have been changed

Output Channel Switching



Left: icon for matrix

Center upper big font for matrix name,

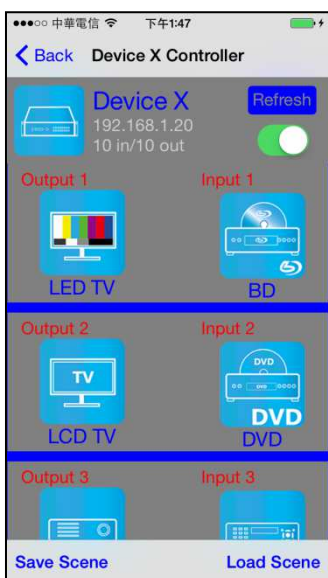
Center middle small font for matrix IP

Center lower small font for matrix type (4 by 4 or 10 by 10)

Right gear icon: enter Modification page

Notice: if shows 「Specify the host does not exist」 means the matrix not exist

Touch the block of matrix to enter Controller page



Top right 「Refresh」 to renew the status of matrix

Below 「Refresh」 button to power on/off the matrix

The block under device are Output 1~ Output 10

(4 by 4 matrix only shows Output 1~Output 4)

Left side shows output device name

Right sideshows current input device name

Bottom left 「Save Scene」 to save the scenes

Bottom right 「Load Scene」 to load the scenes



Touch output block to enter Channel Selection page

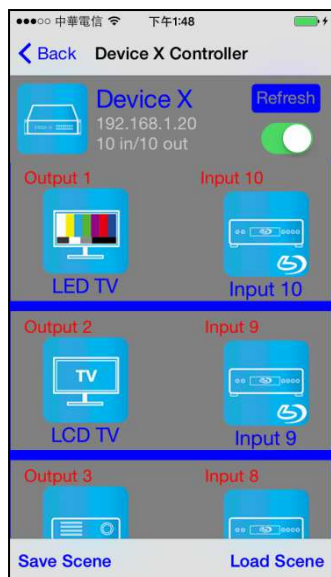


Touch input device to switch or ON/OFF icon to power on/off



It will return to Controller page after switching and refresh the status of channel

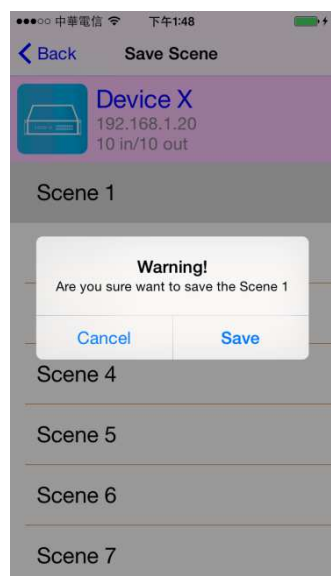
Save Scene



In Controller page touch bottom left 「Save Scene」 to enter Save Scene page



Touch the Scene column to show pop-up dialog



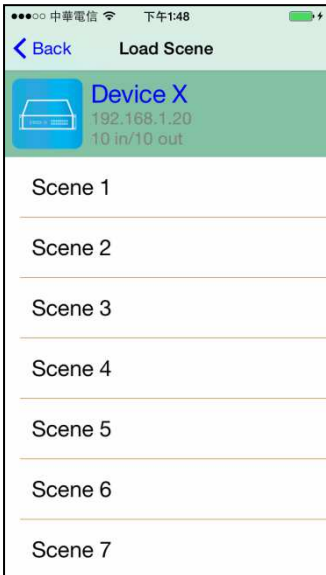
Touch 「Save」 to save current channels setting for all output
It will return to Save Scene page automatically.

Notice: if it shows “Please update device firmware” means your matrix do not support this function, please upgrade your firmware to enable this function

Load Scene

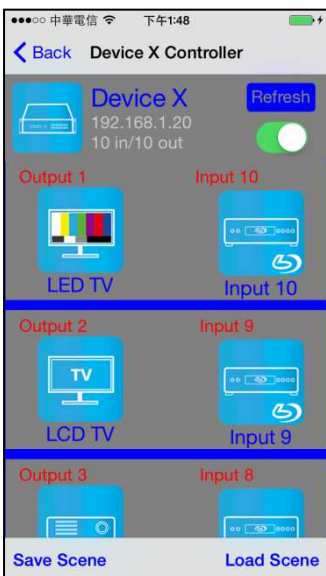


In Controller page touch bottom right 「Load Scene」 to enter Load Scene page



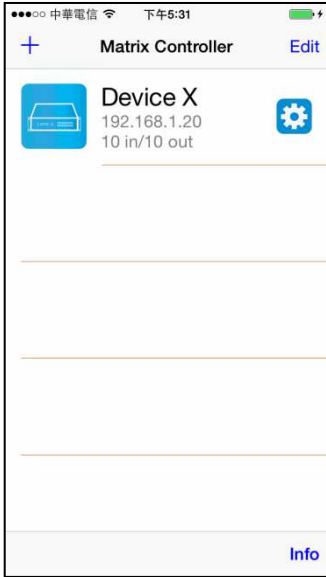
Touch scene column to load saved channels setting for all output
It will return to Load Scene page automatically. (Default is Output 1 to Input 1, Output 2 to Input 2 and so on...)

Notice: if it shows " Please update device firmware" means your matrix do not support this function, please upgrade your firmware to enable this function

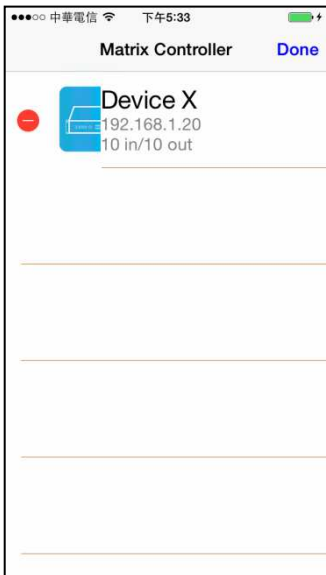


It will return to Controller page after switching and refresh the status of channel

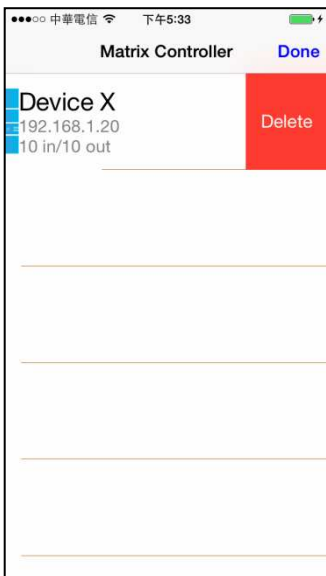
Delete Matrix



Touch top right 「Edit」 button to enter delete mode



Touch 「-」 button in the left of matrix



Touch 「Delete」 to delete the matrix

Touch top right 「Done」 to exit

Specification:

ITEM NO	HS10M
HDMI Resolution	4096x2160 24/25/30Hz 8bit RGB 444, 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 6.7A
Power Consumption	5A
Temperature	Operation: 0 to 55°C, Storage: -20 to 85°C, Humidity: up to 95%
Dimension mm	483 x 197 x 88
Weight g	3900



Rev. B