HDMI Matrix Switcher Series

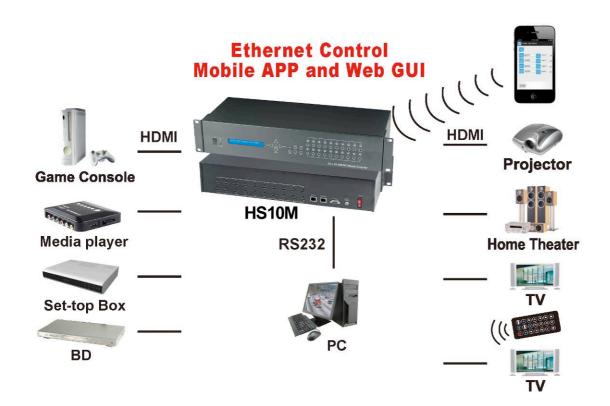
ITEM NO.: HDTVHS10M 10 x 10 HDMI Matrix Switcher

HDTVHS10M 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, UltraHD 4K2K,** and with **2U 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.

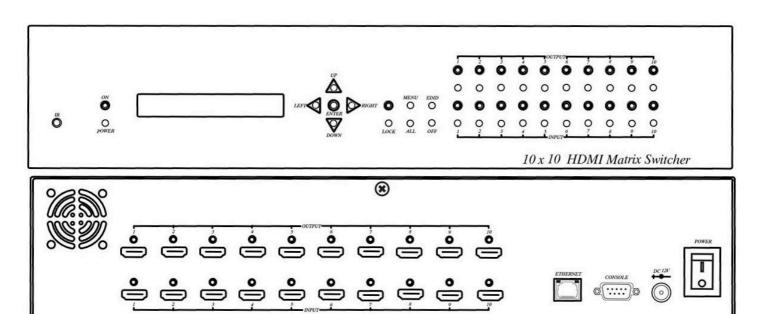


Features:

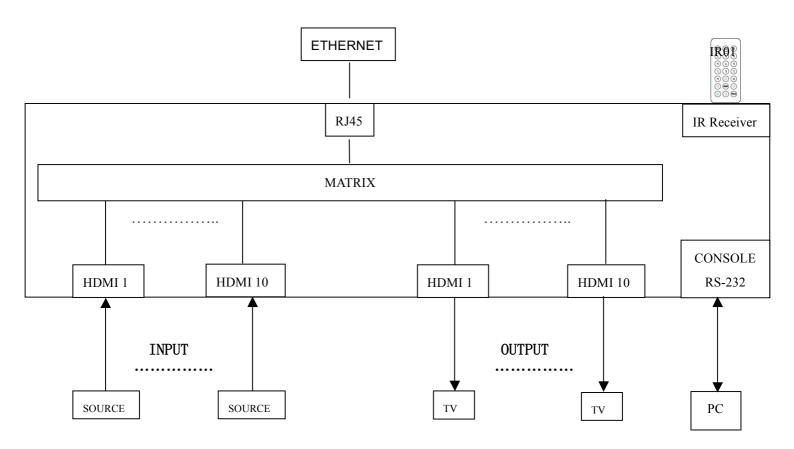
- Connect up to 10 HDMI source to 10 x HDMI display monitors.
- HDMI 1.4 with 3D, HDCP & DVI Compliant.
- High definition video up to 4K2K@24/25/30Hz@8bits, 1080p@60Hz@12bits.
- Audio supports up to LPCM 7.1 @ 192KHz \ Dolby TrueHD \ DTS-HD MA
- Easy to use front panel control of switching or using the 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 and LED Indication:

POWER Light on Power on

Light off Power off

RJ45 Yellow Ethernet linked

Green Ethernet date transmission

3.2 Front Panel LED Indication:

ON BLUE Power on

RED Standby
OFF Power Off

INPUT 1~10 BLUE Signal indication

OFF No signal

OUTPUT 1~10 BLUE HDMI output indications

OFF Output unlink

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

Front Button Function:

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 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 $1\sim10$ or ALL then press ENTER

OUTPUT $1 \sim 10$ Fast switch output INPUT $1 \sim 10$ Fast switch input

3.3 Panel button Function:

OUTPUT 1~10 & **INPUT 1~10**

Press OUTPUT $1\sim10$ to select output port then the input at IN line of LCM will blink, press INPUT $1\sim10$ to select input port to switch the channel

ALL:

Press ALL button, the IN line of LCM will blink, press INPUT $1\sim10$ to select input port to all output port.

OFF:

Press OFF button, the IN line of LCM will blink, press ALL or OUTPUT $1\sim10$ 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 $1\sim10$ 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 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 menu

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. 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 provide 10 sets of channel setting to fast reload for different application.

LOAD	
SAVE	

LOAD

Reload saved scene, press UP or DOWN to select the number of setting ENTER to load.

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

SAVE

Save current channel setting, press UP or DOWN to select the number and 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 move to a position number will flash, press ENTER to complete the setting.

Subnet Mask: (Default 255.255.255.0)

Subnet Mask 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 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, 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".

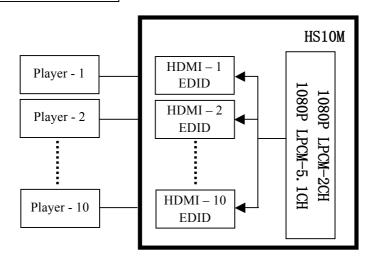
For 4K2K resolution you have to copy the EDID from your 4K2K monitor.

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

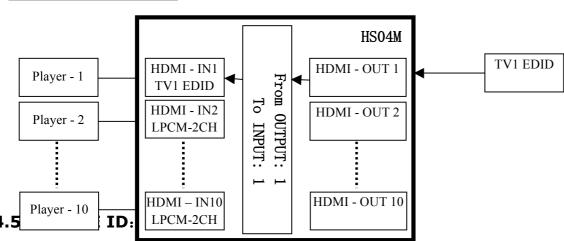


COPY MODE:

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.





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.







4.6 VERSION:

Display Matrix and WEB firmware version

MATRIX VERSION 1.00 WEB VERSION 1.00

5.0 Remote Control Function (IR01):



Symbol

- 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

Function

Remote control button define:

Syllin)OI	runction
	Power	ON/Standby (same as Matrix)
	LEFT	Left (same as Matrix)
	RIGHT	Right (same as Matrix)
\bigcirc	UP	Up (same as Matrix)
\bigcirc	DOWN	Down (same as Matrix)
	ENTER	Confirm (same as Matrix)
MINI	MENU	Menu (same as Matrix)
		Quick key1
2		Quick key2
3		Quick key3
		Quick key4
5		Quick key5

Quick key6
Quick key7
Quick key8
Quick key9
Quick key10
EDID (same as Matrix)
OFF (same as Matrix)

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.

6.0 REMOTE Control Function:

HS10M support RS232 and TCP/IP control by same command as below:

6.1

For RS232 CONSOLE:

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)

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



For Ethernet TCP/IP(Winsock)

Default IP address: 192.168.0.10, Port:47011



6.2 Operation Instruction format:

Command + \triangle (Space) + Parameter + Enter

[Command] [Description]

 $POWER\triangle[y]$ Power on/off

 $TX[n]\triangle[n]$ Set RXn to TXn

 $RX[n] \triangle [m,m,m,m...]$ Set RXn to multiple TXm,m,m,m...

MATRIX ID△[p] Set Matrix IR ID

EDID COPY△[n] Copy EDID from TX n

SAVE \triangle [n] Save setting to #n

LOAD \triangle [n] Load setting from #n

KEY∆[y] Panel button& IR remote control Lock/Unlock

DHCP△[y] DHCP client on/off

IP ADDRESS∆[x.x.x.x] Set Matrix IP address

SUBNET_MASK∆[x.x.x.x] Set Matrix subnet mask

GATEWAY△[x.x.x.x] Set Matrix gateway

MEDIA_TYPE $\triangle[z]$ 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
р	00~09=0~9
X	0~255
у	00=off, 01=on
Z	00=auto, 01=10M, 02=100M

Example:

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

 $TX01 \triangle 04Enter$

-To route input 2 to all output, send the following string: RX02 \triangle ffEnter

-To route input 2 to output 1,2,4, send the following string: RX02 \triangle 01,02,04Enter

-To put in standby the matrix, send the following string: $POWER \triangle 00 Enter$

Commands are case insensitive.

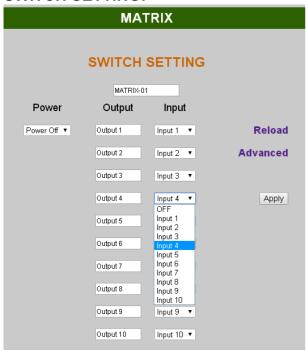
The Matrix will reply **OK** once string is correct, **NG** in case of incorrect string

7. Web Control Function:

Initial IP Configuration

- Setup MATRIX IP Address same as your PC with same domains.(Default 192.168.0.10)
 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)

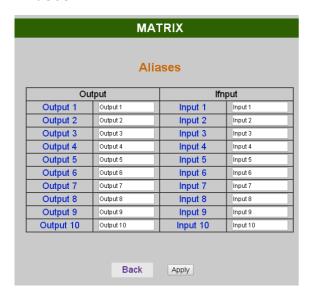
Memory : Click to enter Memory setup page
 MAC Filter : Click to enter MAC Filter setup page
 Aliases : Click to enter Aliases setup page

Device Name : Can change device name

Back : Back to SWITCH SETTING page

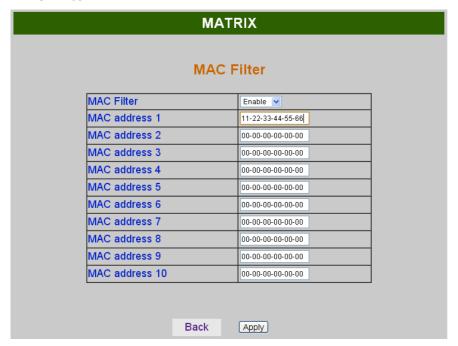
• Online : Terminal connection users display, the max. 4 users on line.

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:

	N	IATRIX				
	N	lemory				
Sa	ıve		L	oad		
Save1	Save6	L	_oad1		Load6	
Save2	Save7	L	_oad2		Load7	
Save3	Save8	L	_oad3		Load8	
Save4	Save9	L	_oad4		Load9	
Save5	Save10	L	_oad5		Load10	
Back						

Save : Save 10 set of channel settingsLoad : Reload 1 of the channel settings

• Back : Back to Advanced page

8. Android APP Function:

Google Play Download Link

https://play.google.com/store/apps/details?id=sct.com.matrixcontroller

Google Play 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

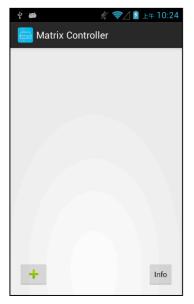
Default subnet mask is 255.255.255.0

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:

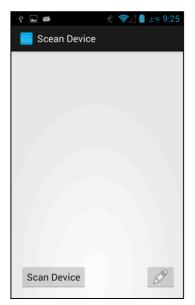


When first time enter the APP will see the main page

Bottom left 「+」 to add matrix

Bottom right 「Info」 to show information

Scan Device

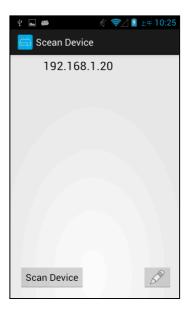


Touch 「+」 button at main screen to enter 「Scan Device」 page

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

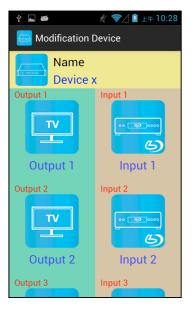
Modify Device



Press the matrix name to show pop-up dialog



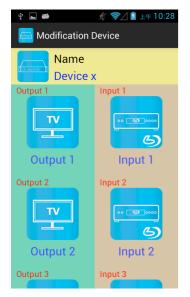
Touch 「Modification」 to enter modification page.



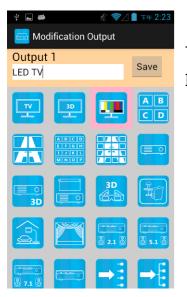
Yellow block shows matrix name and icon Green block shows name and icon of output devices Brown block shows name and icon of input devices



Touch yellow block to modify matrix name and icon Input the name and select the icon you prefer then touch $\ ^{\lceil}$ Save $\ _{\rfloor}$ to finish

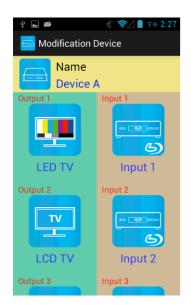


Return to Modification page you will see the matrix have been changed



Touch green block to modify output name and icon

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

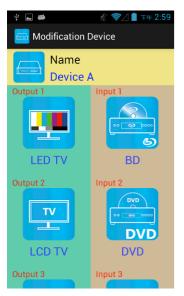


Return to Modification page you will see the output have been changed



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 Controler 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 $\ \lceil$ Save $\ \rfloor$ 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



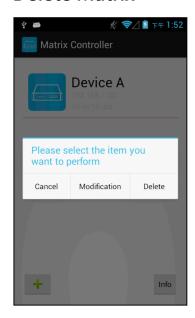
Touch scene column to load saved channels setting for all output It will return to Load Scene page automatically. (Default is Output 1 to Input 1, Output 2 to Input 2 and so on...)

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 \ulcorner Delete \lrcorner



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



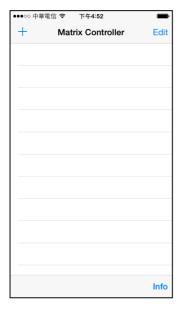
System Setting

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 255.255.255.0
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

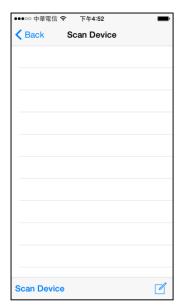
Main Page



When first time enter the APP will see the main page Top left $\lceil + \rfloor$ to add matrix Top right $\lceil \text{Edit} \rfloor$ to enter delete mode

Bottom right 「Info」 to show information

Scan Matrix

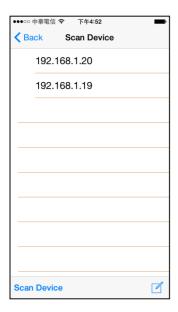


Touch 「+」 button at main screen to enter 「Scan Device」 page

Touch bottom left 「Scan Device」 to start scan

Touch bottom right pen icon to input the IP address manually

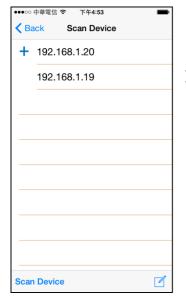
Add Matrix



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

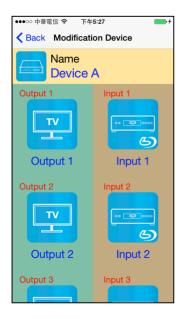


Return to main screen you will see the matrix which just add

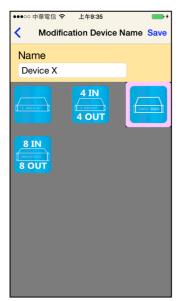
Modify Device



Touch the gear icon to enter Modification page

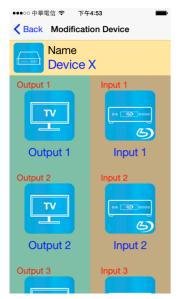


Yellow block shows matrix name and icon Green block shows name and icon of output devices Brown block shows name and icon of input devices

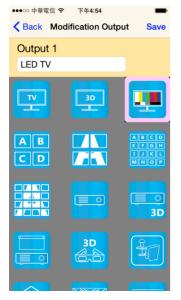


Touch yellow block to modify matrix name and icon

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

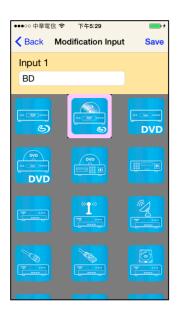


Touch green block to modify output name and icon

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

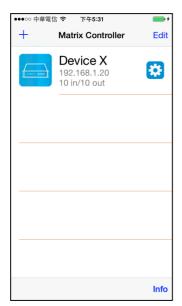


Touch brown block to modify input name and icon Input the name and select the icon you prefer then touch \lceil Save \rfloor to finish



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 \(\text{Specify the host does not exist} \) 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

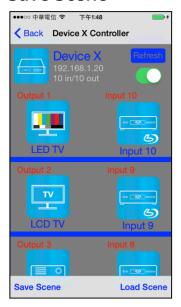


Touch input device to switch or ON/OFF icon to power on/off



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

Save Scene



In Controller page touch bottom left^Γ Save Scene Jto enter Save Scene page



Touch the Scene column to show pop-up dialog



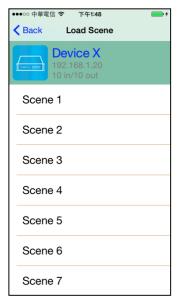
Touch 「Save」 to save current channels setting for all output It will return to Save Scene page automatically.

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

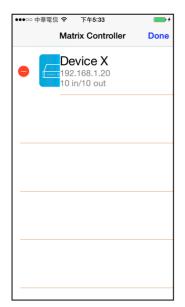


It will return to Controller page after switching and refresh the status of channel

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	HDTVHS10M			
HDMI Resolution	4096x2160p@24/25/30Hz 8bit RGB444, 1080p@60Hz 12bit, 3D			
Video Input Interface	HDMI Type A x 10			
Video Output Interface	HDMI Type A x 10			
RS-232 Input/Output	DB9 x 1(CONSOLE)			
Interface	(======================================			
IR Receive Angle	± 45 degree			
IR Receive Distance	5M			
Power Adapter	DC 12V 6.7A			
Power Consumption	5A			
Temperature	Operation: 0 to 55℃, Storage: -20 to 85℃, Humidity: up to 95%			
Dimension mm	483 x 197 x 88			
Weight g	3900			



Rev. B