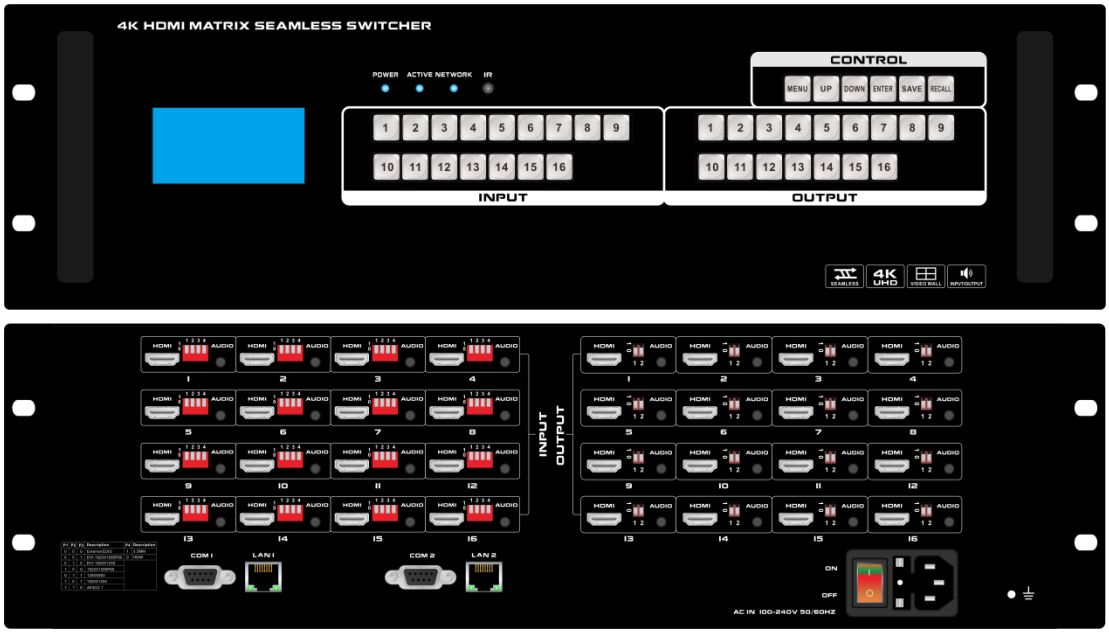
User Manual

4K60 Fixed 16x16 HDMI Matrix Switcher with seamless switch, video wall and WEB GUI, APP control



Version: V25.01

Safety Reminder

To protect the device and operating personnel from electrostatic discharge, you need to check and ensure that the device is grounding well before the device is powered on. Please observe the following when you install, use, maintain this equipment.



Make sure the device ground connection.

Disposal Instruction (US)

For better protection of our earth, please don't throw this electronic device into municipal trash bin when discarding.

To minimize pollution and ensure utmost protection of the global environment, please recycle the product. For more

information about the collection and recycling of Waste Electrical and Electronic Equipment (WEEE), please contact your local dealers.

Safety Instructions

1. Please read these safety instructions carefully.
2. Please keep this User Manual for later reference.
3. Please disconnect this equipment from connecter before cleaning. Don’t use liquid or prayed detergent for cleaning. Use moisture sheet or cloth for cleaning.
4. Make sure the equipment is connected to the power source with the correct voltage, frequency, and ampere.
5. All cautions and warnings on the equipment should be noted.
6. Never pour any liquid into opening, this could cause fire or electrical shock.
7. Never open the equipment. For safety reason, the equipment should only be opened by qualified service personnel.
8. If one of the following situations arises, get the equipment checked by a service personnel :
   a. Liquid has penetrated into the equipment.
   b. The equipment has been exposed to moisture.
   c. The equipment has not work well or you can not get it work according to user’s manual.
   d. The equipment has dropped and damaged.
   e. If the equipment has obvious sign of breakage.
9. Ambient operation temperature: 0 ~ 45 degrees.
10. Risk of overheating! Don’t put operating/installing equipment inside too closed space, be sure the installation space at least 1 to 2 inches or 2 to 5 cm of space for ventilation. To ensure that other objects do not cover the equipment.

Notice: Peripheral devices

Only peripherals (input/output devices, terminals,player, etc.) certified to comply with Class B limits may be attached to this equipment. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

Caution

Changes or modifications not expressly approved by the manufacturer could void the user’s authority, which is granted by the Federal Communications Commission, to operate this equipment.

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1. Product Introduction

This is a 4K60 seamless 16x16 HDMI matrix switcher with the user-friendly WEB GUI, APP control and video wall function.

With uncompressed transmission technology for the digital signal to make sure the image High fidelity output. Unique signal links shielding designing technology to make sure the signal completeness, the internal data switch has super strong capacity of resisting disturbance and long continuous and stable working ability. Supports 7*24 continuously working and with dual LAN and RS232 backup control, it's convenient for users to control via PC, iPad, APP and the 3rd parties central control by the the RS232 control commands.

With the dual RS232 and LAN control, users also can simply set up and control the surrounding equipment, such as the projector, electric curtain and TVs.

This matrix switchers have been widely used in the conferencing, radio&television project, multimedia conferencing hall, large screen display project, television teaching, command control center and so on applications.

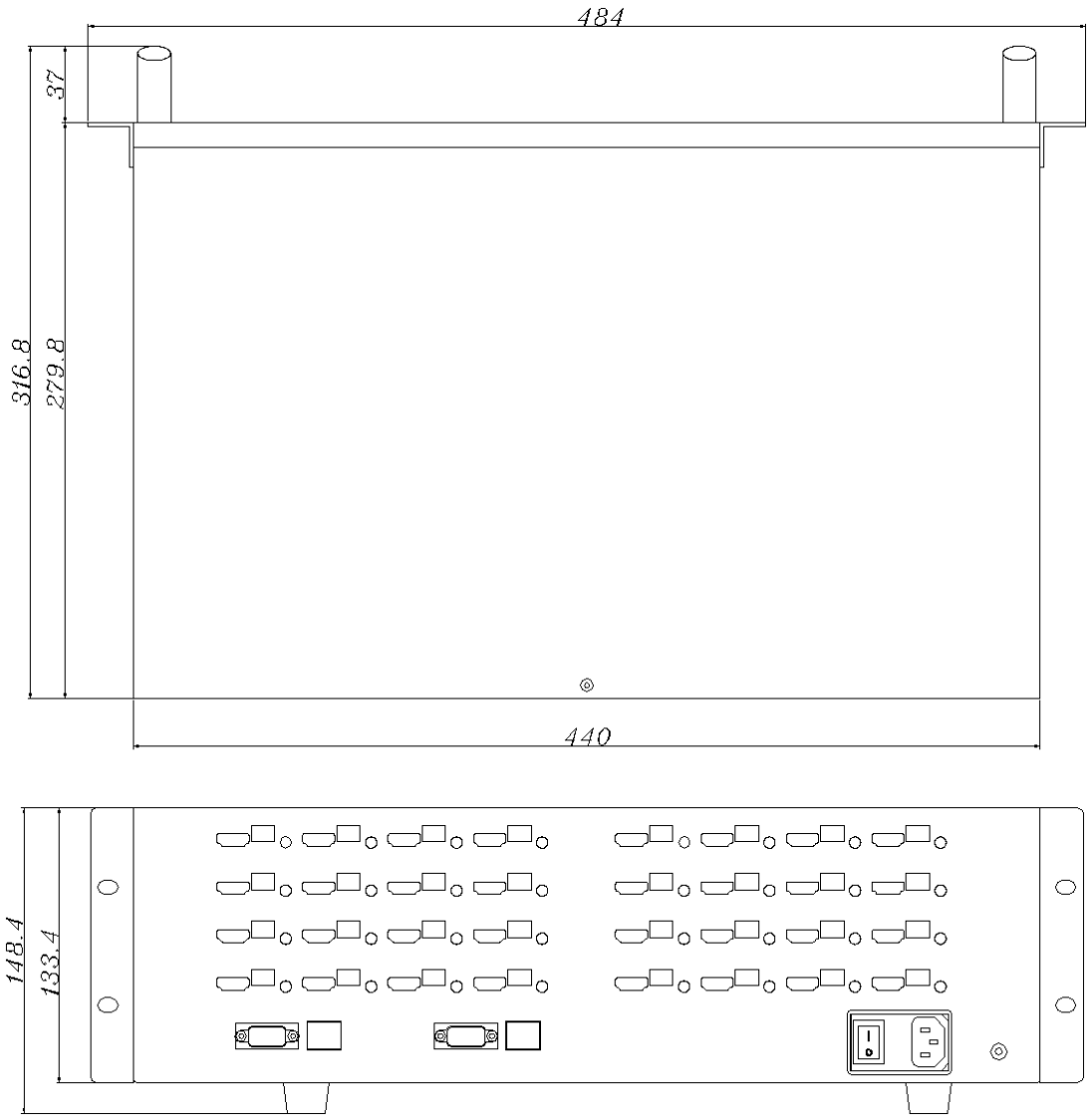
2. Product Features

- Fixed 1.5 U chassis height
- Supports 16 HDMI inputs with EDID management and 3.5mm audio embedded function
- Supports 16 HDMI outputs with 3.5mm audio de-embedded function
- The input and output resolution can up to 4K60
- Support Video wall and seamless switching with the 1080P and 4K60 cards
- Support dual LAN and RS232 ports for backup control
- Front buttons with background lights, easier to operate at any time
- Support auto saving protection and auto recovery function while power cut

3. Technical Datasheet

Model	FIX-SVM-1600P-4K60
Description	4K60 16x16 HDMI Matrix Switcher
Input	16* HDMI inputs with 16* 3.5mm audio embedded ports
Output	16* HDMI outputs with 16* 3.5mm audio de-embedded ports
Protocol Standard	Supports HDMI1.4, HDCP1.4
Color Space	Support RGB444, YUV444, YUV422
Resolution	640×480---3840×2160@60Hz(VESA), 480i---4K@60Hz(HDTV)
Distance	HDMI: 15m/40ft for 1080P, for 4K60 up to 10m/30ft
Control	iOS/Android Apps, WEB GUI, RS232 & Front buttons with background light
Power	AC: 110V—260V 50/60Hz

Consumption	8.5W~45W when fully loaded
Dimension	3U, 482*280*133(mm)
Weight	12kg
Work Temperature	0℃ ~50℃
Storage Temperature	-20℃ ~55℃

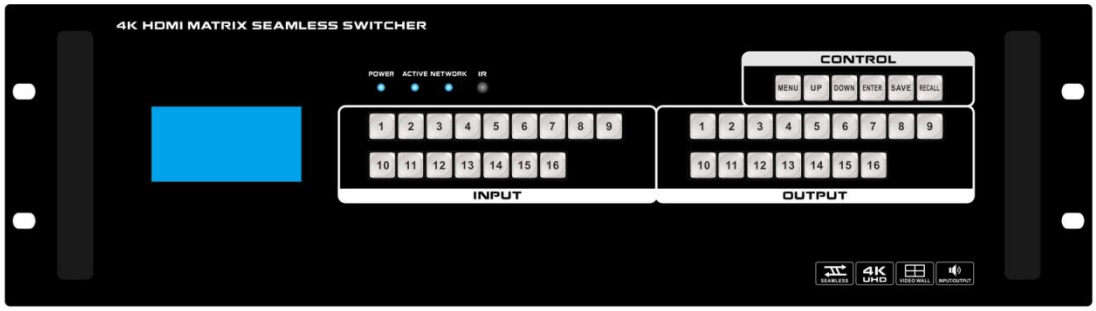


4. Packing Details

Matrix switch .....1 unit
Power cord .....1 pcs
User manual .....1 pcs
Rack ears .....1 pair

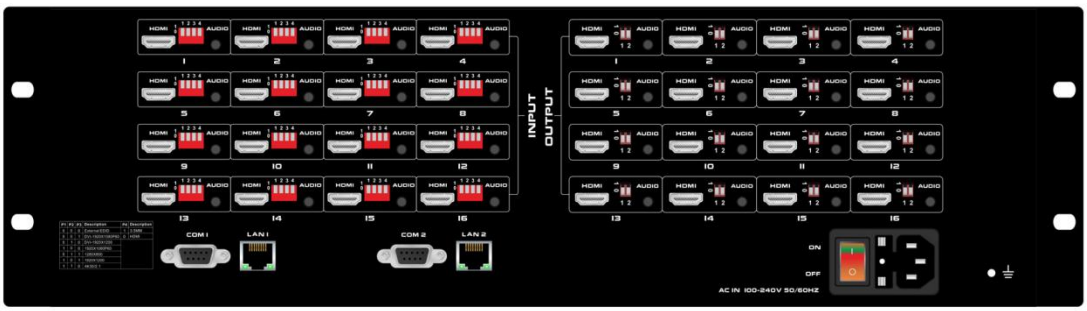
5. Panels

Front Panel



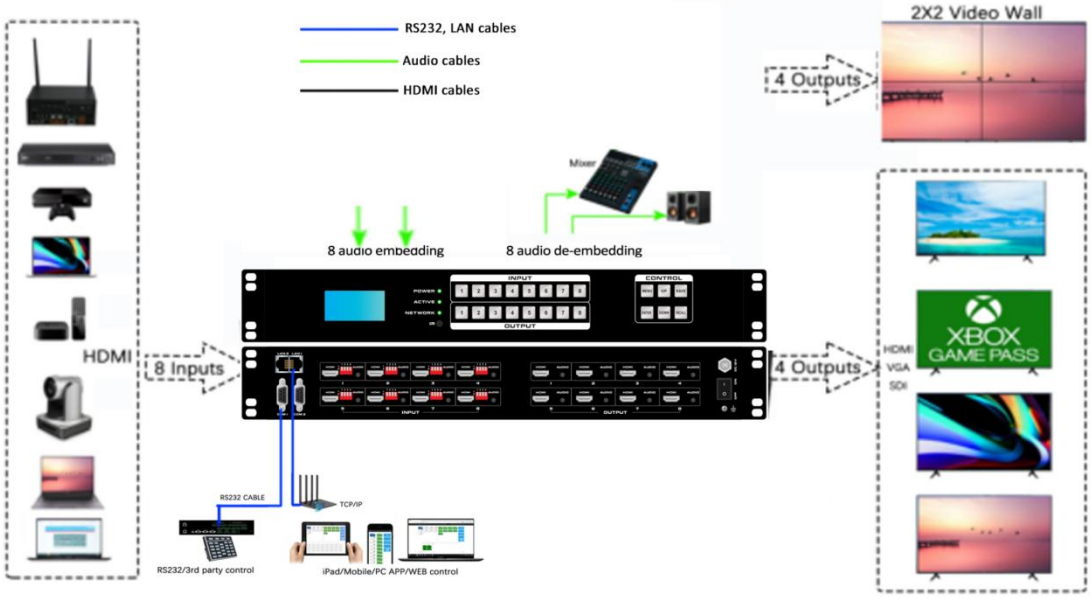
Name	Description	
LCD Screen	Operation information real-time Display	
POWER	light up after power on, it will light off after power off	
ACTIVE	Flashing while using the buttons/ WEB switching successfully	
IR	IR remote control	
OUTPUT	Input buttons with background light, from 1~16 input buttons	
INPUT	Output buttons with background light, from 1~16 output buttons	
CONTROL	**MENU**	Select between View, Switch, Scene Save/ Recall and Setup
	UP	Upward and short cut button for switching to ALL outputs
	SAVE	For saving the scene or setup
	ENTER	Enter button
	DOWN	Downward and short cut button for canceling to ALL outputs
	RECALL	For recalling the saved scene

Rear Panel:



Name	Description
LAN 1	For the TCP/IP/WEB/APP control, the default IP is 192.168.0.80
LAN 2	For the TCP/IP/WEB/APP control, the default IP is 192.168.1.80
COM1	For the RS232 control or control other devices(9600,8,n,1)
COM2	For the RS232 control or control other devices(9600,8,n,1)
INPUT	16 HDMI input ports with 4-PIN DIP EDID, 16 audio embedded
OUTPUT	16 HDMI output ports with 4-PIN DIP EDID, 16 audio de-embedded
DC12V	DC power supply with screw, DC12V5A
ON/OFF	For the matrix switcher power ON and OFF
	For the equipment grounding wiring

6. Equipment Connection Diagram(The diagram below is using the 8x8 model)



7. Equipment Operation and Instruction

The LCD display screen will light up after power and turned on. It shows the current operation status, press MENU button, it will keep recycling between VIEW, SWITCH, SCENE, SETUP four different interface. The default interface is VIEW.

7.1 Font buttons switching operation

7.1.1 Switching operation

Switching with industry 2-key fast switching, first press the input button and then select/press output button. Details are as follow:

- There are 8 input buttons, 8 output buttons. First press MENU to show SWITCH interface, then can continue the next switching step
- Press input number at the INPUT area, the input button will light up with blue light
- Then press output number at the OUTPUT area, and the output button will light up. Users also can press the UP button to realize 1 to ALL switching.
- If need to cancel switching, can press the button again to cancel. Users also can press the DOWN button to cancel all outputs

7.1.2 Scene Operation

- The system can save 40 scenes, after switching successfully in the SWITCH interface, press MENU button and switch to SCENE interface.
- Enter the wanted scene save number(1~8), then press SAVE. If want to reload the saved scene, press the scene number and press RECALL button

7.1.3 Setup Operation

- First press MENU switch to SETUP interface, then continue next operation
- Via SETUP, it can realize IP address changing, in SETUP interface can use UP/ DOWN button to position, enter the needed IP address from the left button side, then press

SAVE button to save

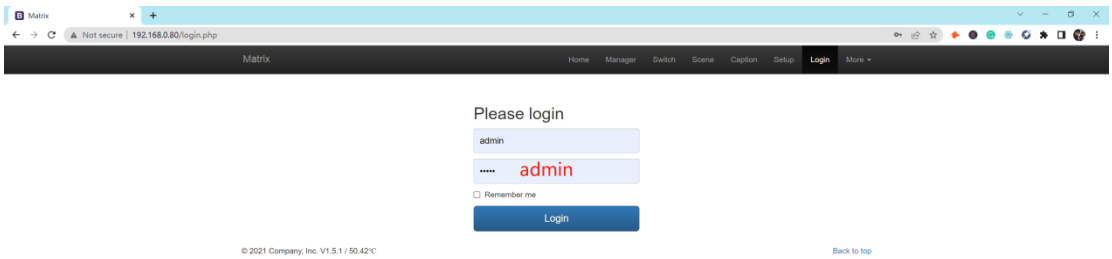
7.1.4 View Operation

- Via MENU button switch to VIEW interface, will display the current switching status

7.2 WEB Control

The default IP address are 192.168.0.80(LAN1) and 192.168.1.80(LAN2).

Accordingly to connected LAN port, enter the corresponding IP address, (Recommend with Google Chrome) as below:

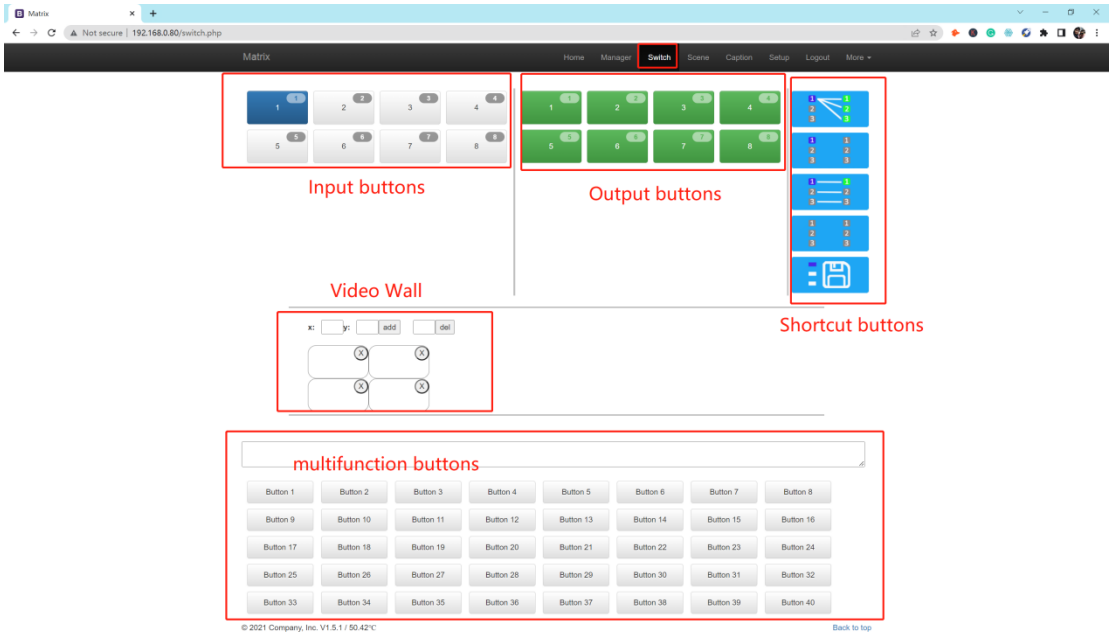


Note: The default user name and password is the same: admin, click login after entering. Please make sure the control PC is at the same IP segment.



7.2.2 Switch

Switch interface: (The below screenshots are using the 8x8 model)

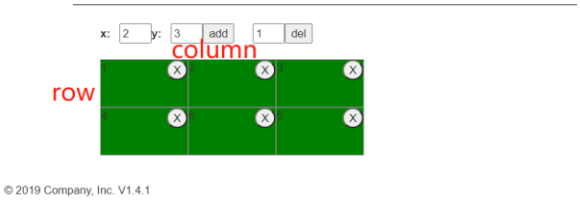


Users can do the input sources switching by clicking the Input buttons first, then pressing the Output buttons.

Or users can use the shortcut buttons on the right for the fast switching:

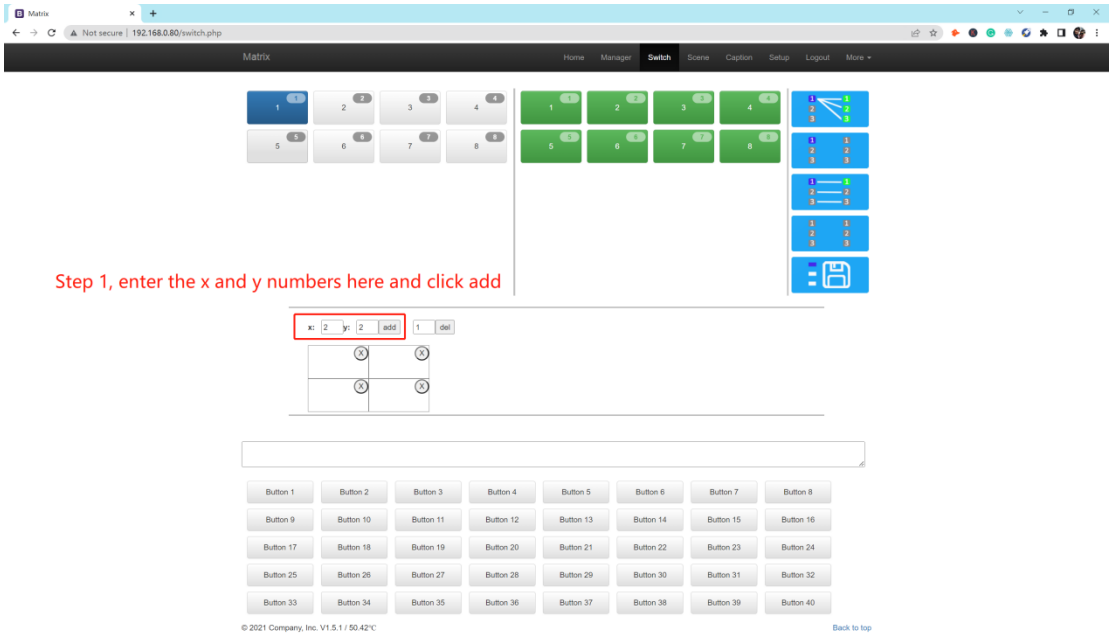
	Switch one input to all the outputs
	Close one input to all the outputs
	Switch all inputs on all outputs
	Close all inputs to all outputs
	Switch to the scenes Save and Recall interface

Users also can do the Video wall settings on the WEB GUI bottom by simply adding the x&y(x: for the rows; y: for column).

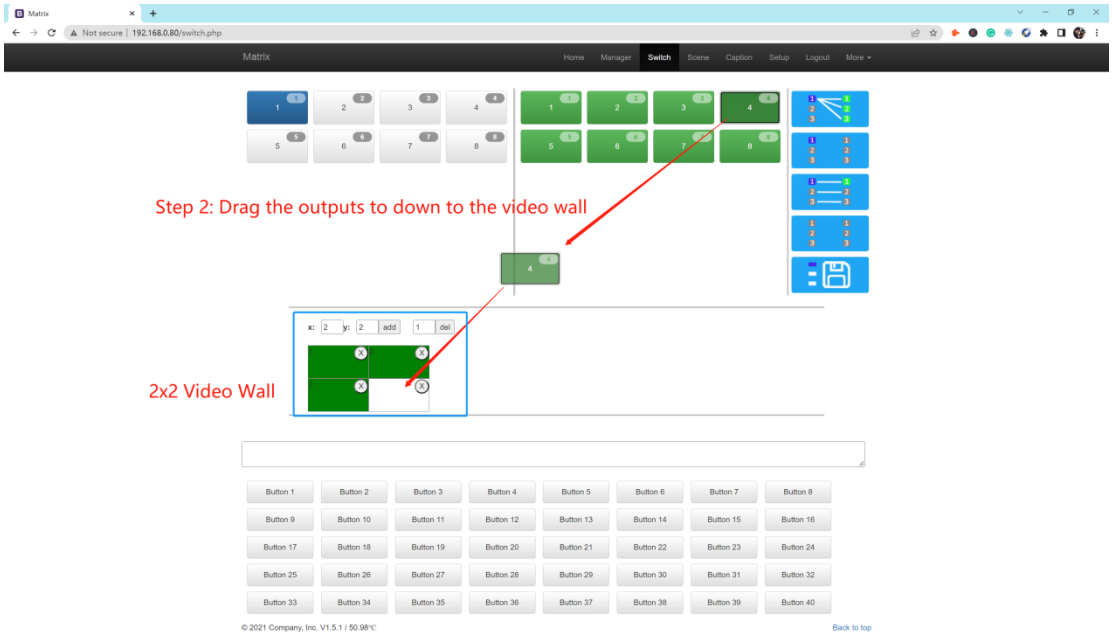


Below the steps to create the video walls:

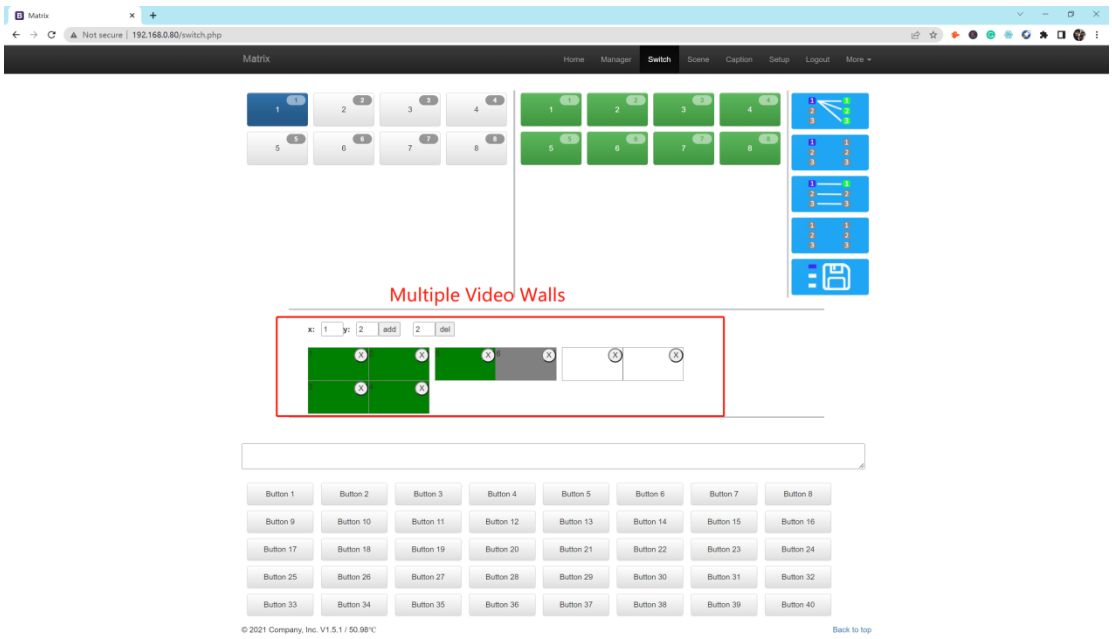
Step1: Enter the video wall Row(x) and column(y) numbers, and then click “add”, example to create a 2x2:



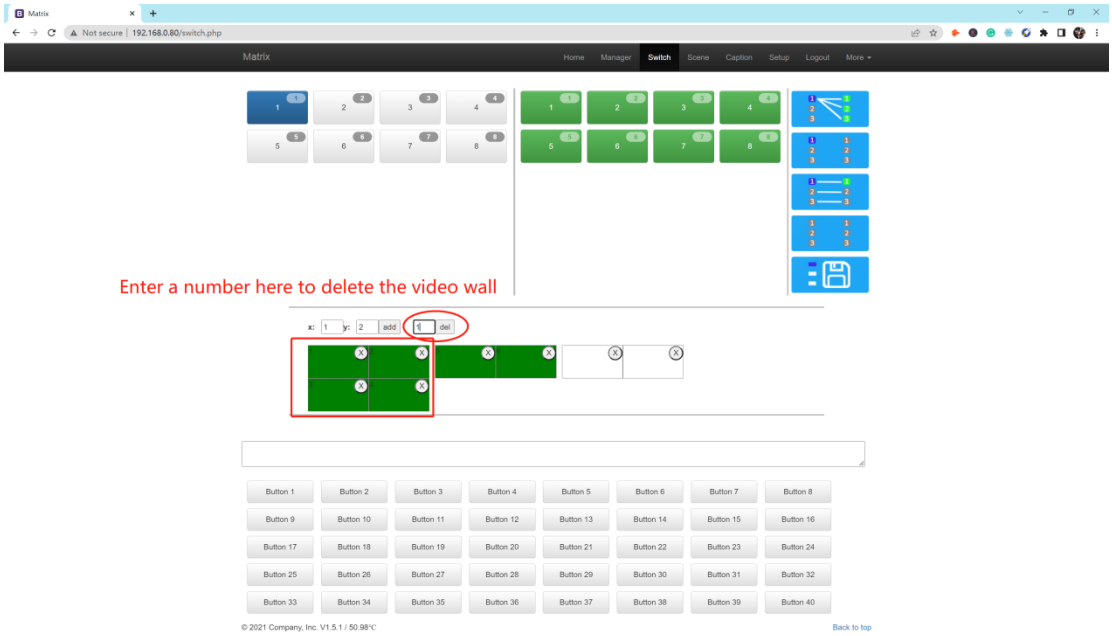
Step 2: Click “add” to create the 2x2 video wall, then drag the outputs to the video wall box.



Users can have multiple video walls by the same way to create:

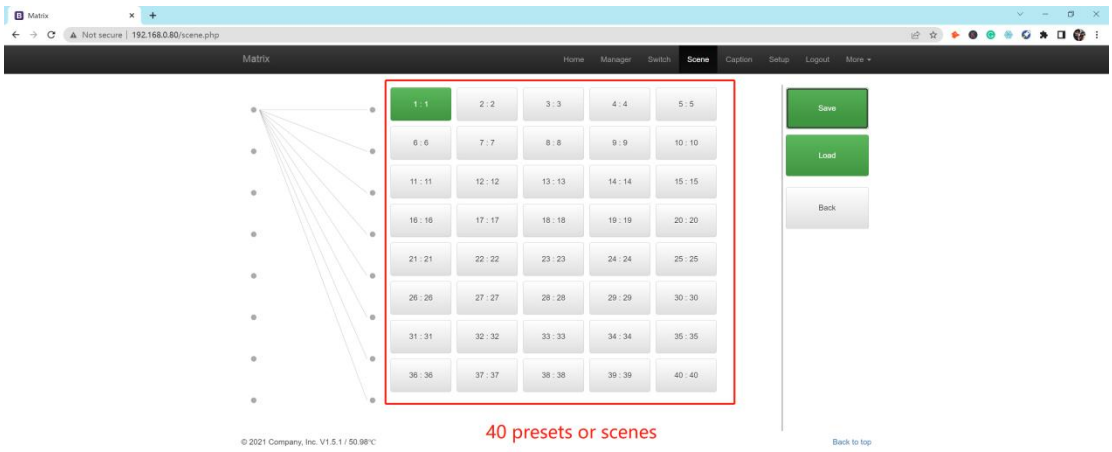


To delete the video wall, users will only need to enter the video wall number in the del box and click “del’.



7.2.3 Scene

Scene Interface:

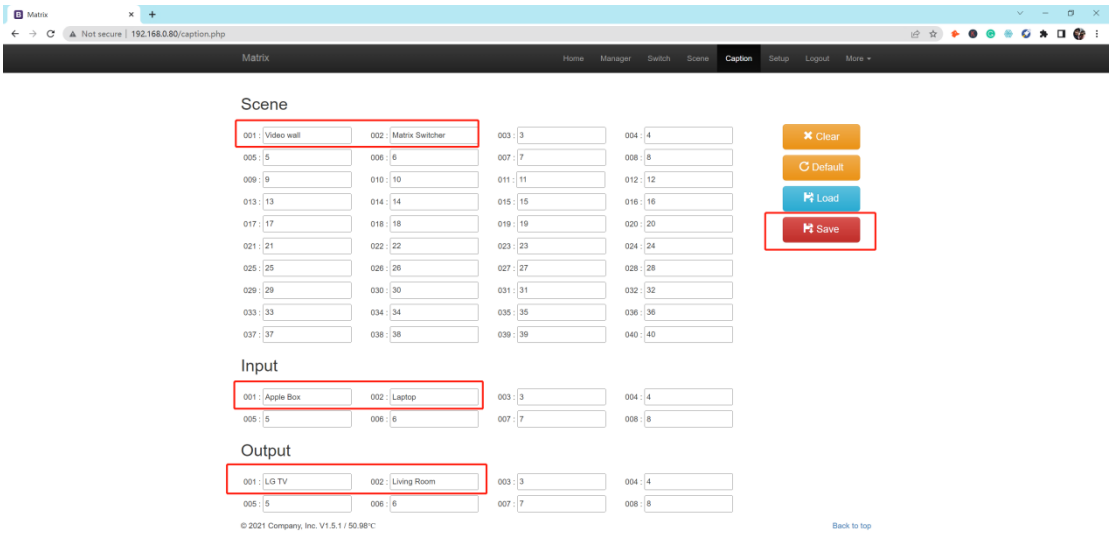


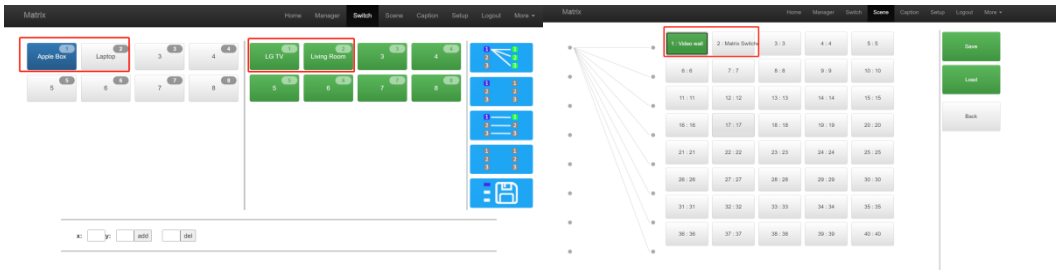
It can support 40 scenes in total, users can preview each scene switching status by clicking on any of the scene number. Click “Save” to save the switching status, and “Load” to recall the scenes. “Back” to return back to the switch interface.

7.2.4 Caption:

For changing the input, output and scenes’ name

Users can rename the scenes, input and output names here, users can change all the names and then need to click the “Save” button on the right. After renamed the names, users will see the input, output and the scenes names have changed once click to the “Switch” and “Scenes” interface. With this renaming function, it can be easier for the users to know the sources and ends.

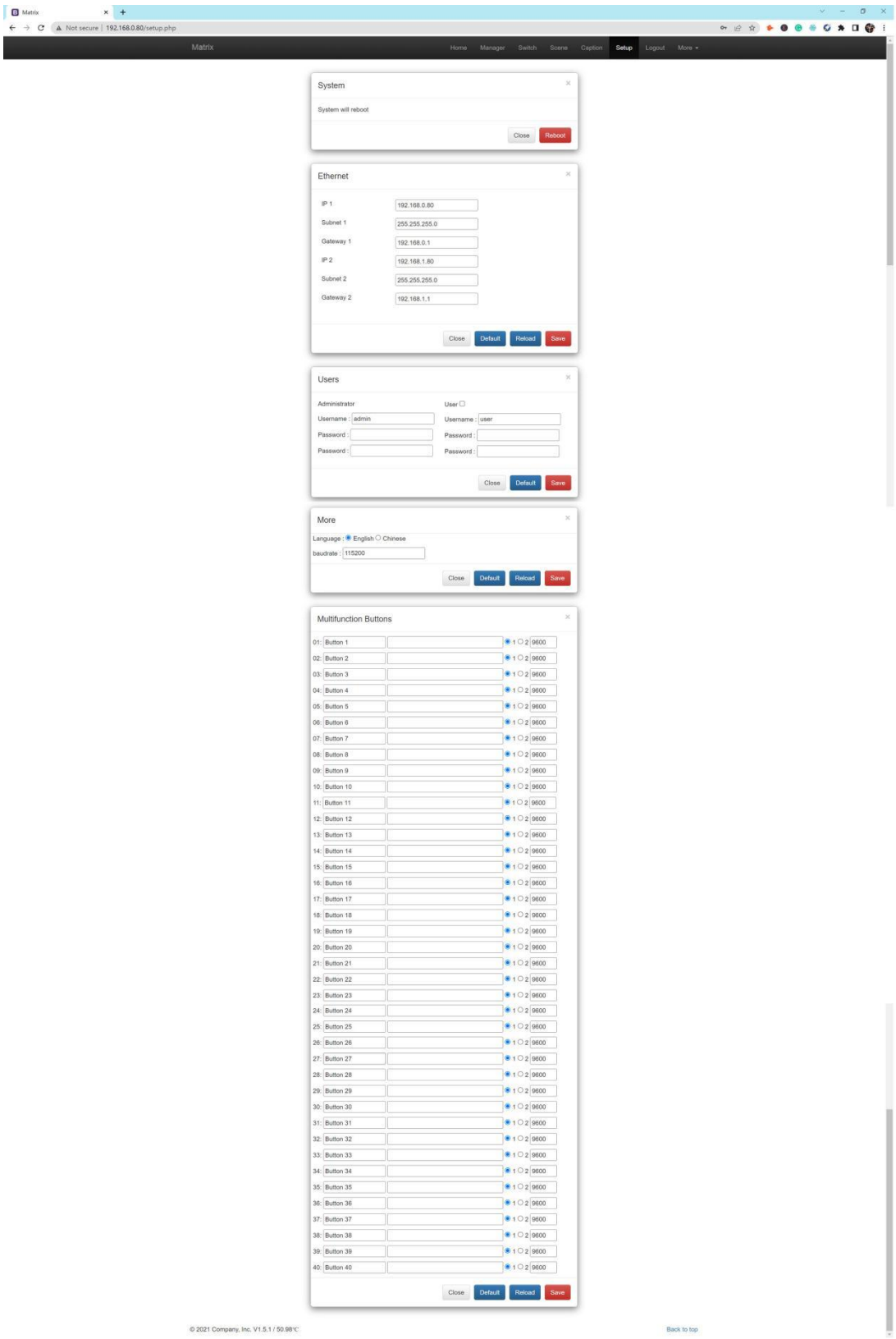




7.2.5 Setup

Setup interface:

Users can reboot, change the IP address, set up the login user names, language and the RS232 baud rate settings here. After changed the IP address, will need to reboot the matrix switcher, then the new IP address will take effect.



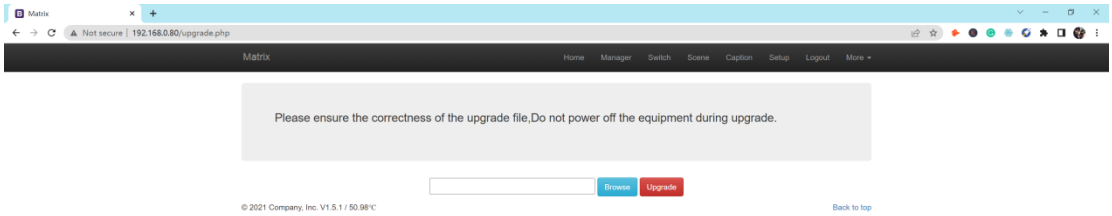
7.2.6 More:

For the more interface, users mainly can do the firmware upgrade here.

Screen is for the other matrix models which with the touch screen, so users can monitor the touch screen switching status.

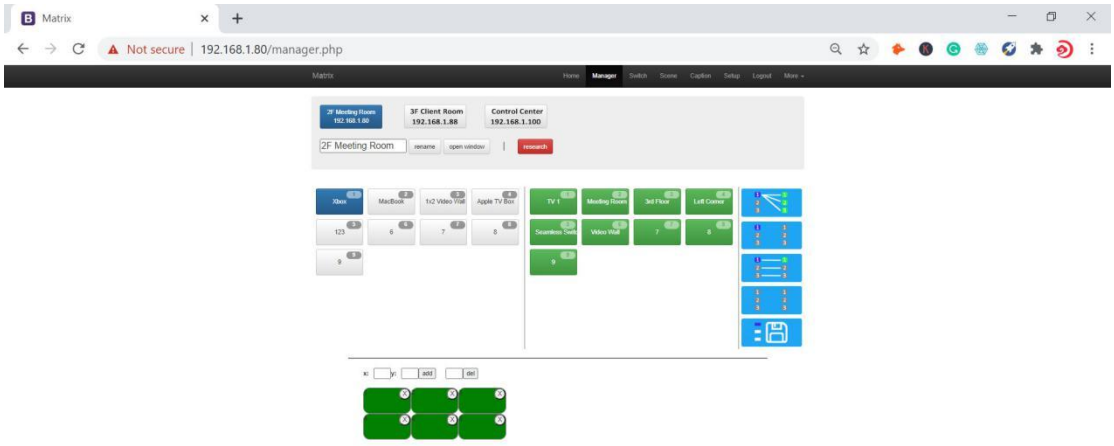
For the upgrade, users need to check with the factory to get the firmwares, the firmware is ".zip" format.

License and Debug is for factory engineering team to have the technical support.



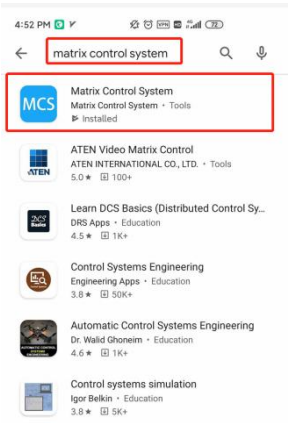
7.2.7 Manager

This Manager interface, it allows the users to manage at most 254 units of the matrices which are installed at the same area network and at the same gateway but different IP addresses. As below are showing 3 matrices, users can rename each matrix and click button to do the switching or open in a new manage window.



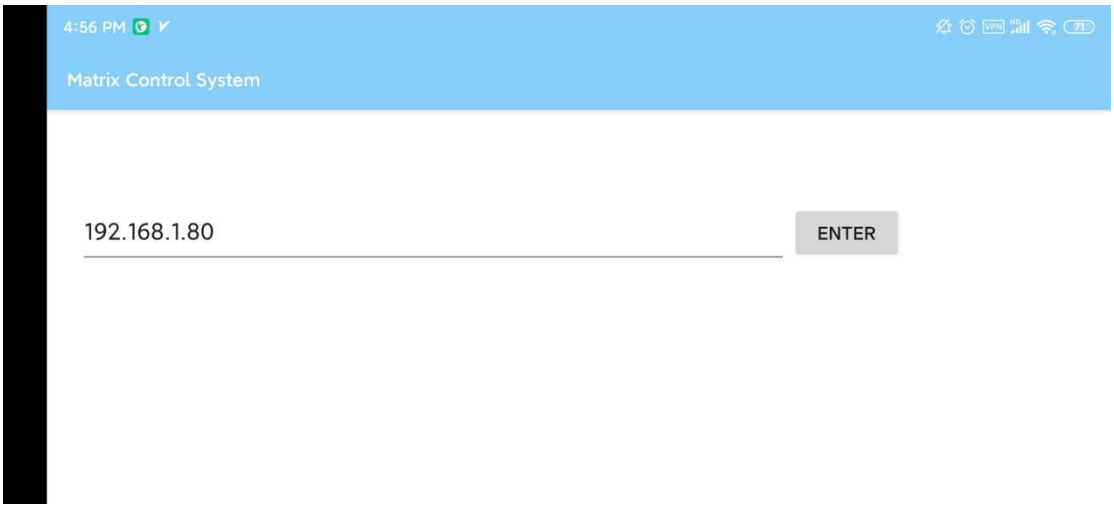
7.3 APP Control

The matrix switchers also can support the iOS and Android APP control, users can search the keyword "Matrix Control System" in Apple store or the Google Play Store.

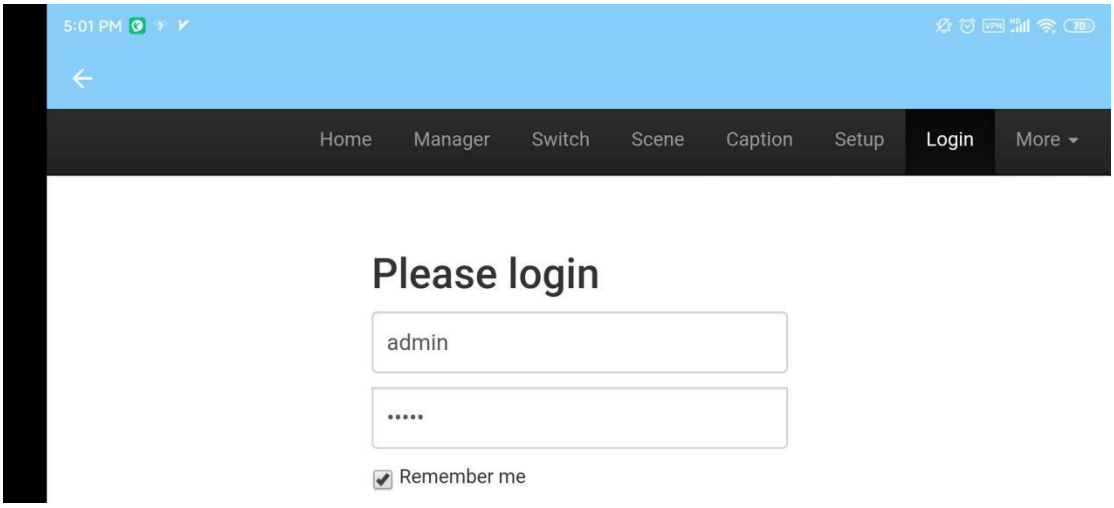


Step 1: Make sure the matrix well connected with the WIFI router, and the iPad/Android devices

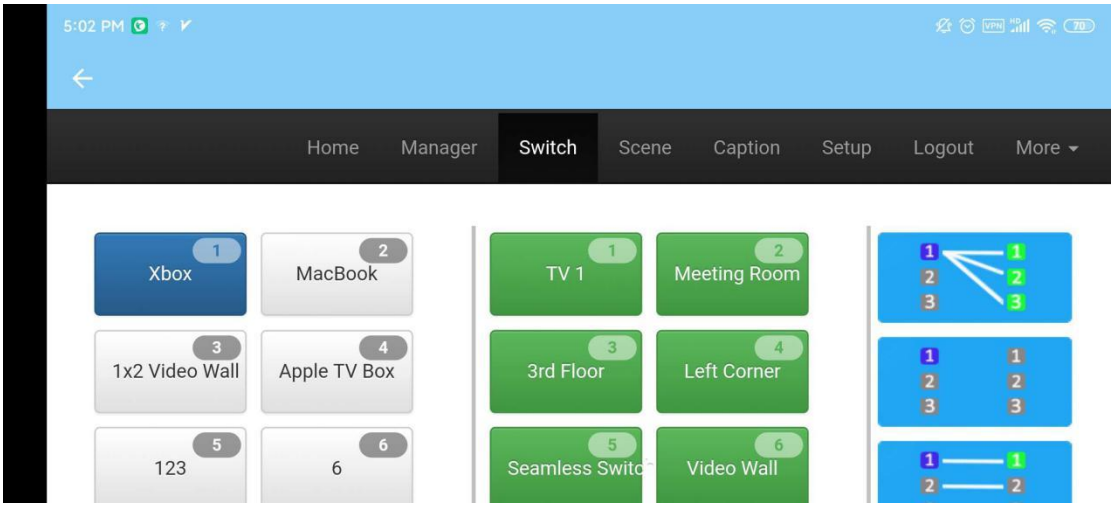
are connected to this same WIFI. Then open on the MCS(matrix control system) APP and Enter the IP address of the matrix switcher(the default IP addresses are: 192.168.0.80 or 192.168.1.80):



Step 2: After Enter the IP address, it will need to login, the default user name and password both are the admin:



Step 3: After log in successfully, users can do the same functions as the WEB GUI operation:



7.4 IR Remote Control

Source switching: Press input number---Press 'AUTO'----Then press output number-----ENTER

Eg, switch input 1 to output 1, INPUT1---AUTO----OUTPUT1---ENTER

Scene save: Press the number from INPUT----SAVE

Eg, save the current status to Scene 2, 2(from input section)---SAVE

Scene recall: Press the number from INPUT----RECALL

Eg, Recall the save Scene 2, 2(from input section)---RECALL



7.5 COM and TCP/IP Control Commands

RS232 cable with straight-through connection(USB-RS232 can be used directly to control)

Communication protocol:

Baud rate: 115200

Data bit: 8

Stop bit: 1

Check bit: None

The TCP port is 5000 and UDP is 4000

Commands	Explanation	Function description
YAll.	Y=1,2,3,4.....	Switch Input Y to all the outputs Eg. "**1ALL.**" means switch input 1 to all outputs
All1.	One to one	Switch all the channels to be one to one. Eg.1->1，2->2，3->3.....
YXZ.	Y=1,2,3,4..... Z=1,2,3,4.....	Switch Input Y to Output Z Eg. "**1X2.**" means switch Input 1 to output 2
YXZ&Q&W.	Y=1,2,3,4..... Z=1,2,3,4..... Q=1,2,3,4..... W=1,2,3,4.....	Switch Input Y to Output Z, Q, W Eg. "**1X2&3&4.**" means switch Input 1 to Output 2, 3, 4

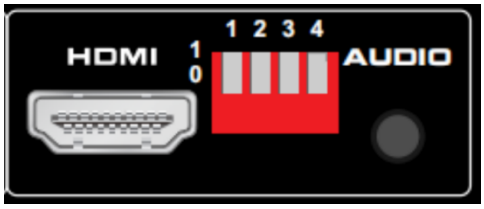
SaveY.	Y=1,2,3,4.....	Save current status to scene Y Eg. "**Save2**." means saving current status to Scene 2
RecallY.	Y=1,2,3,4.....	Recall the saved scene Y Eg. "**Recall2**." means recall the saved Scene 2
BeepON.	Beep sound	Buzzer on
BeepOFF.		Buzzer off
Y?.	Y=1,2,3,4.....	Check the Input Y to outputs switching status Eg. "**1?.**" means to check Input 1 switching status

Note:

- Every command ends with a period "." and it can't be missing.
- The letter can be capital or small letter.
- Switch success will return as "OK", and failed will return as "ERR".'

7.6 Input card EDID and Output card control

For the red 4-PIN DIP switch on the input cards, for the EDID management and Audio selection

DIP 1	DIP 2	DIP 3	Functions	DIP 4(For audio selection)
0	0	0	Pass-through	**1:** For 3.5mm embedded audio
0	0	1	DVI-1080	**0:** For using the HDMI audio
0	1	0	DVI-1200	
1	0	0	1080P2.1	
0	1	1	1440*900	
1	0	1	HDMI-1200	
1	1	0	4k2.1	

8. Trouble Shooting and Attention

No signal on the display?

- Make sure all the power code well connected
- Check the display switcher and make sure it's in good condition
- Make sure the cables between the device and display are short than 10 meters for 4K
- Reconnect the cables and restart the system
- Make sure the signal sources are on
- Check the cables between the devices and displays are connected correctly.
- Make sure the display can support the output resolution.

9. After Sales

9.1 Warranty Information

The Company warrants that the process and materials of the product are not defective under normal use and service for 2 (2) year following the date of purchase from the Company or its authorized distributors.

If the product does not work within the guaranteed warranty period, the company will choose and pay for the repair of the defective product or component, the delivery of the equivalent product or component to the user for replacement of the defective item, or refund the

payment which users have made.

The replaced product will become the property of the Company.

The replacement product could be new or repaired.

Whichever is longer, any replacement or repaired of the product or component is for a period of ninety (90) days or the remaining period of the initial warranty. The Company shall not be responsible for any software, firmware, information, or memory data contained in, stored in, or integrated with the product repaired by the customer's return, whether or not during the warranty period.

9.2 Warranty limitations and exceptions

Except above limited warranty, if the product is damaged by over usage, incorrectly use, ignore, accident, unusual physical pressure or voltage, unauthorized modification, alteration or services rendered by someone other than the Company or its authorized agent, the company will not have to bear additional obligations. Except using the product properly in the proper application or normal usage