



KENSENCE

S-Mix-E88/E1818/E3232/7272

Modular Matrix Switcher

Operation manual



Kensence (Shenzhen) Technology Development Co.,LTD

Version: V1.01.01

2015-7

Contents

1.Product brief introduction	2
2.Product index	2
3.Connection and operation	3
4.S-Mix E88 Standard configuration	4
5.Specification	5
6.Description of operation and function	6
6.1 Description of front panel.....	6
6.2 Operating Instruction.....	9
6.3 Usage of matrix's PC software.....	12
6.4 Operating steps of changing the name of the input/output signals.....	16
6.5 Switching operation of matrix.....	17
6.6 Save scene operation of matrix.....	19
6.7 Load scene operation of matrix.....	19
6.8 FAQ.....	20
7.Communication protocol and control instruction code	21
Examples of some codes.....	21
8.Version and manufacture information	22

Safety reminder



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



Make sure the device ground connection.

- Please use single-phase three wire system AC 220V power supply, and ensure all transmission system is grounding good.
- To protect operating personnel and the device , please turn off all power supplies and pull the plug before moving the device or doing some specific works witch need to be done when the electricity is turned off . Please turn off the main power switch on rainy days or when not in use for a long time.
- Please do not put anything upon the cables, or tread the cables .
- To avoid damaging the device , please turn off power supply before plugging cable into the device or pulling cable from device. The damage caused by plugging/ pulling cables without turning off power supply is outside the scope of the warranty.
- The power of the device gives out heat when it works, so it's necessary to keep the work environment ventilated to protect the device from the damage caused by overtemperature.

- Do not place the device in very cold or very hot places. Do not sprinkle any corrosive chemicals or liquid on or around the device.
- To avoid accident or any further damage ,non-professionals please do not dismantle or maintain the device without permission.
- ◆ Do not sprinkle any corrosive chemicals or liquid on or around the device.

1.Product brief introduction

S-MIX series matrix is seamless switching HD audio and video mixing matrix promoted by KENSENCE based on years of accumulation of AV processing and switching technique. No black field (2-10s generally) happens during switching is the most outstanding feature of this matrix. It realizes seamless switching indeed. S-MIX series matrix adopts single-modular input/output design, and one card represents one kind of signal. This help users to realize the most effective configuration and make the best use of resource. S-MIX series matrix supports 3G/HD/SD-SDI, HDMI, DVI, VGA, YPBPR, CVBS, reticle, optical fiber, wireless signals input, supports 3G/HD/SD-SDI, HDMI, DVI, VGA, YPBPR, CVBS, reticle, optical fiber, wireless signals output, and all input/output supports random seamless switching. This matrix also supports Hot Swapping,easy to operate.

S-MIX series matrix supports audio signal input/output. It enables the analog audio to be embedded into HDMI signal, and the digital audio in HDMI signal to be de-embedded to analog audio. It supports synchronous audio/video switching.

2.Product index

1. Supports N channels input, N channels output (N equals 8,18,32);
2. Supports 3G/HD/SD-SDI,HDMI,DVI,VGA,YPBPR,CVBS,reticle,optical fiber signals input. 3G/HD/SD-SDI adopts BNC interface, supports one channel 3G/HD/SD-SDI signal looping out . HDMI signal and DVI signal adopt DVI input interface. VGA, YPBPR, CVBS adopts VGA input interface. Reticle signal adopts standard RJ45 interface. There are 120m transmission distance reticle and 70m transmission distance reticle . Optical fiber signal adopts single core LC fiber interface;

3. Supports HDMI1.3 protocol, supports DVI1.0 protocol, supports HDCP protocol;
Supports 640*480/60Hz---1920*1200/60Hz(VESA standard), 480i---1080p(HDTV standard) input. There are 16 kinds of output resolution ratio , and you can choose the appropriate one by toggle switch;

4. 4K input card description

The 4K input card EDID KEY is used for EDID learning and can be used to save EDID from devices which has EDID information(eg. TV or other display devices) on 4K 4K HDMI input card via HDMI cable,then connect power to the device, press the EDID KEY button 2 to 3 seconds, power off,then restart

EDID information clear: 4K input card does not connect any equipment, press the EDID KEY button, power off,then restart.

3.Connection and operation

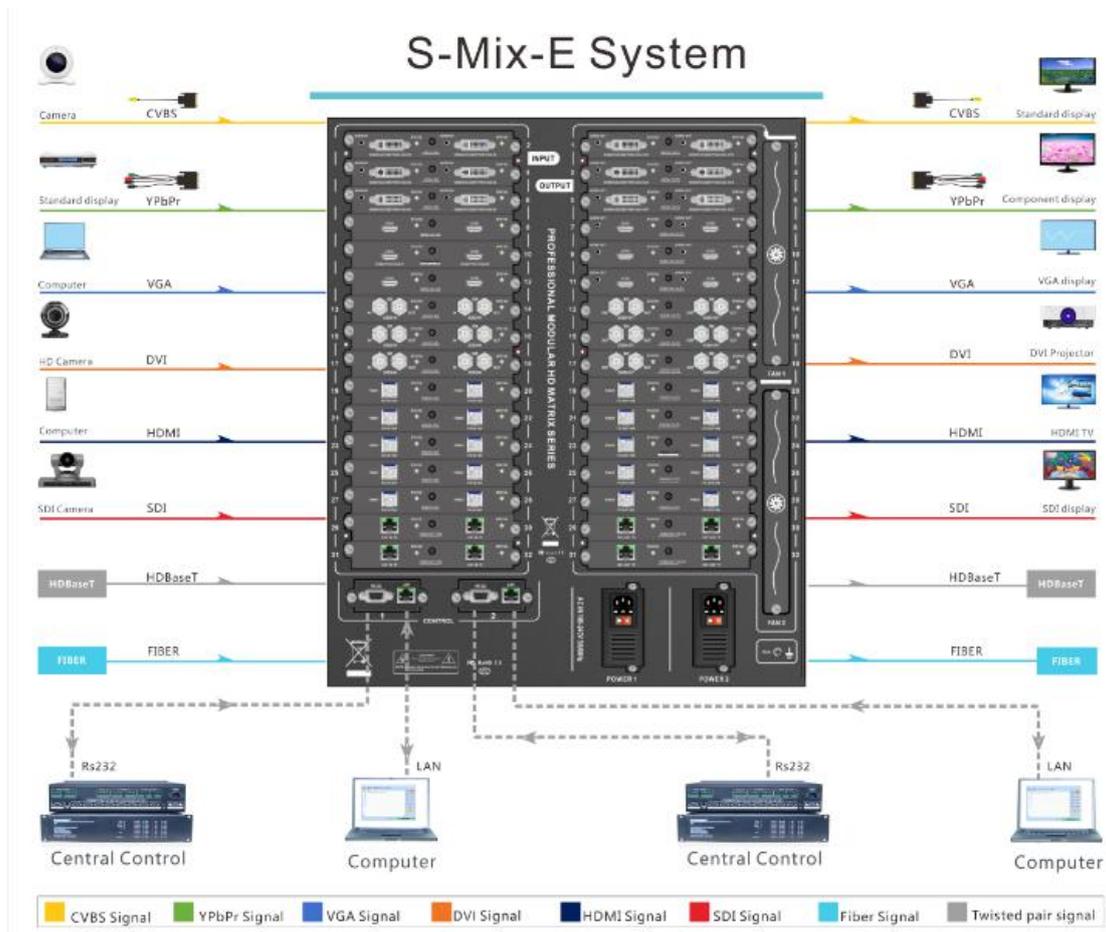
1.Connect the output port of the matrix to HD display or HD projector with HDMI input port.Notice:It's better to use High-Speed HDMI Cable when the transmission distance is too long.

2.Firstly power on the signal source , then the matrix(with power supply), finally devices connected to the output port .

3.Plug in power to each device in the same order .

4.After power on,every display device should display the specified signal(the default signal is NO.1 input signal) .Make sure the devices are normal.Testing switching functions by matched IR remote control.If one of the displays failed to receive signal correctly,enter the menu of display,adjust the resolution from MIN to MAX until the signal is displayed normally.A 24 Hz vertical refresh rate may work better than 60 Hz or higher.

The following diagram is S-Mix-E1818 matrix switching system application:



4. Standard configuration

- ◆ Please check the outer package before using this product. Please contact us if the product is faulted or not intact. We will sincerely serve you according to relevant provisions.

NO.	Name	Quantity	Unit
1	S-Mix E Matrix Host	1	pcs
2	Dryer 50g	1	pcs
3	AC power adapter	2	pcs
4	Certification	1	pcs
5	Warranty card	1	pcs
6	User manual	1	pcs

5.Specification

Model		S-Mix-E88	S-Mix-E1818	S-Mix-E3232	S-Mix-E7272
Interf ace	Input signals/Input cards	8/4	18/9	32/16	72/36
	Output signals/output cards	8/4	18/9	32/16	72/36
	Input modes	HDMI-4K-IN2, HSDA-IN2, 3GSDI-IN2, HDBaseT-IN2, FIBER-IN2			
	Output mode	HDMI-4K-OUT2, HSDA-OUT2, 3GSDI-OUT2, HDBaseT-OUT2, FIBER-OUT2			
	Bandwidth	10.2Gbps			
Contr ol	RS232 control	Control protocol	RS232(Baud rate :115200, Data Bits:8, Stop Bits:1,no parity bit)		
		Connector	9 needles D-sub(DE9F) outlet 3=TX 2=RX 5=GND		
	TCP&IP control	Control protocol	TCP/IP		
		Connector	RJ45 joint 10/100Base-T Ethernet		
Size	Width	483mm	483mm	483mm	483mm
	Height	2.5U/110mm	6U/264mm	11U/484mm	25U/1100mm
	Depth	370mm	350mm	370mm	370mm
Electrostatic protection		Human-body discharge pattern: ±8kV (Air-Gap Discharge) ±4kV (Contact Discharge)			
Power		12 V/3 A DC (US/EU Standard, CE/FCC/UL Certified)			
Input voltage		Power100VAC~260VAC,50/60 Hz, International adaptive power 23W (Maximum)/ 0.5w(Standby)			
Operating Temperature		0°C~40°C			
Storage Temperature		-20°C~60°C			

6. Description of operation and function

6.1 Description of front panel

A.S-Mix-E88 front panel:

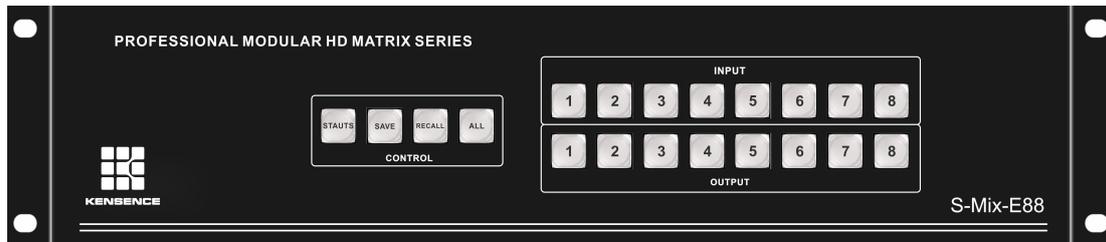
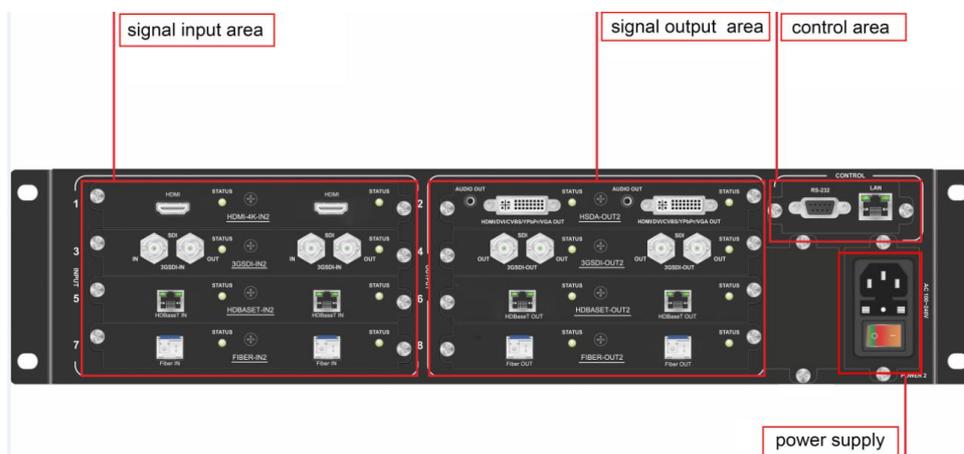


figure 6.1.1 front panel

1. INPUT:input selection button 1~8,select input port,e.g input selection button 3, if you want to cancel selection button 3 port input or select other input port ,please press other button directly
- 2.OUTPUT:output selection button 1~8,select output port,e.g output selection button 3,press button 3 on the OUT side to select it as a output port(the indicator lights),press it again to cancel the selection(the indicator go out).
3. STAUTS button:press it to displays the current input and output status
4. SAVE button:press it to save scene
5. RECALL button:Press it to recall the scene
6. ALL button : output to all



1. LAN: This port is the link for TCP/IP controls, connect to an active Ethernet link with an RJ45 terminated cable.
2. RS232: Connect the matrix to PC control system with RS232 serial null modern cable.
3. INPUT/OUTPUT area: Signal input/output interface area , the number of ports as silk screen picture .
4. Power port: Use included DC adaptor to power the matrix switcher.

b. Description of S-Mix-E1818:

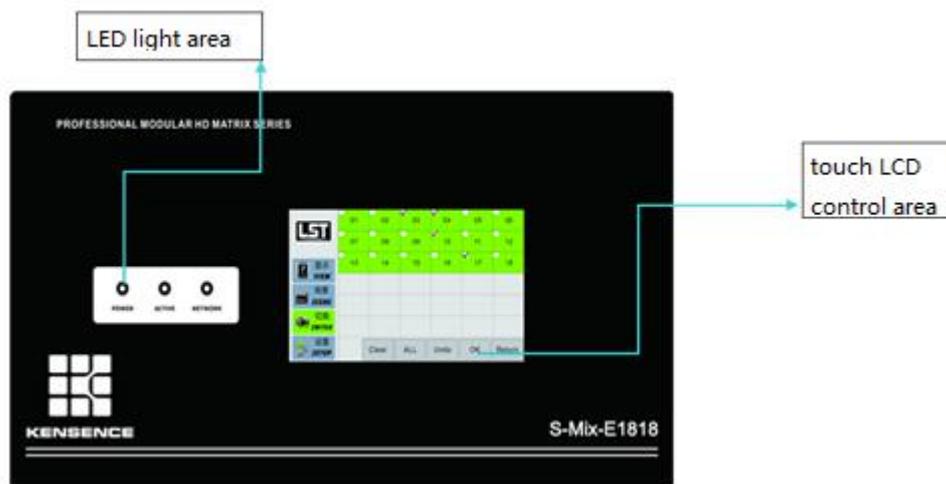


Figure 6.1.3 front panel

POWER: Power LED

ACTIVE: Data Transmitting Indicator

NETWORK: Network connected Status Indicator

Touched LCD: Use the touched LCD to control the in-out of the S-Mix

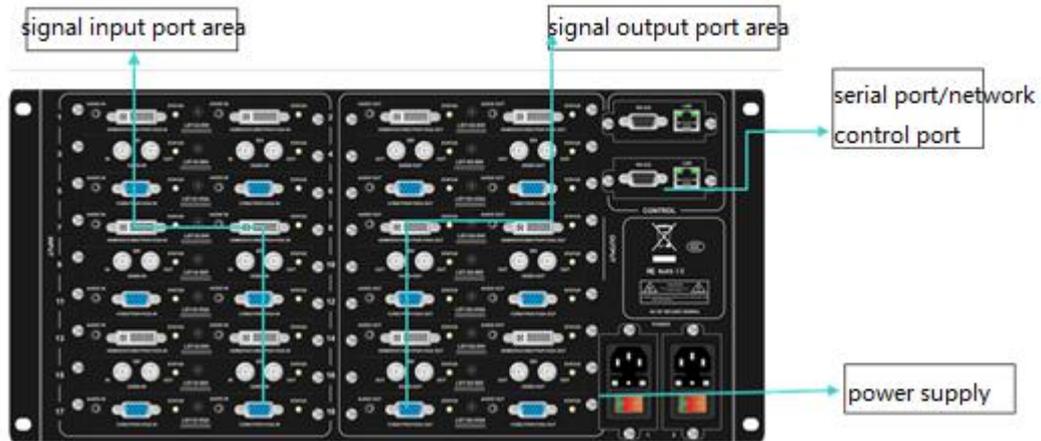


Figure 6.1.4 back panel

1. LAN: Connect the LAN with the RJ45 over TCP/IP.
2. RS232: Connect the PC with the RS232 to control the S-Mix
3. INPUT/OUTPUT Area : Signal I/O connecting area, refer to the figure for more details
4. Power Port: Power supply over the DC power adapter

c. S-Mix-E3232 panel description :

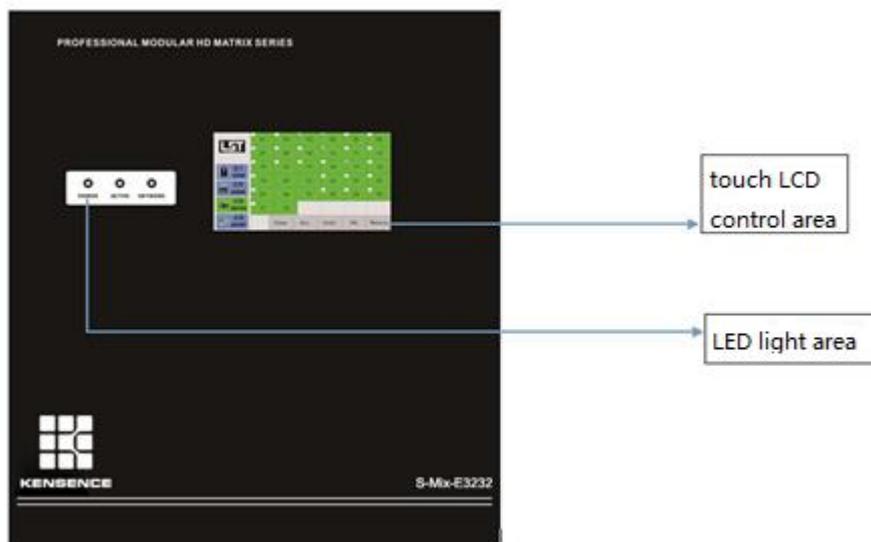


Figure 6.1.5 front panel

POWER: Power LED

ACTIVE: Data Transmitting Indicator

NETWORK: Network connected Status Indicator

Touched LCD: Use the touched LCD to control the in-out of the S-Mix

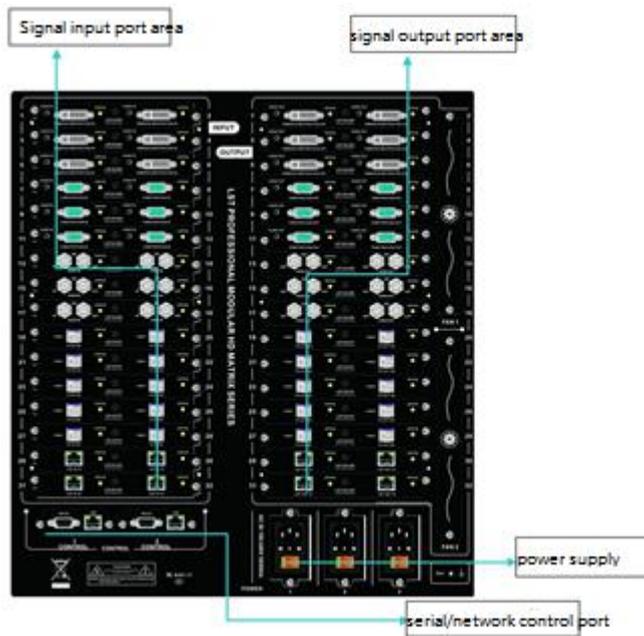


Figure 6.1.6 back panel

1. LAN: Connect the LAN with the RJ45 over TCP/IP。
2. RS232: Connect the PC with the RS232 to control the S-Mix
3. INPUT/OUTPUT Area : Signal I/O connecting area, refer to the figure for more details
4. Power Port: Power supply over the DC power adapter

6.2 Operating Instruction

A、S-Mix-E88 Instruction of Buttons:

Switching: For example, to switch Channel 1 input to Channel 1,3,4 output, press Button“1” in the Input Area, then press Button“1,3,4”in the Output Area. To switch the Channel 2 input to all channels output, press Button “2” in the Input Area, then press Button “All” in the Output Area. Checking the status by pressing Button “Status”, you will see the indicator of working channel light up.

Scene Saving: For example, now the Channel 1 in and Channel 1,3,4 out are working, in order to save this scene, you need to press the “SAVE” button, then choose any number on the board to name the scene, it will be successfully saved.

Scene Recall: Press the “RECALL” button, then choose the number that you name for the scene, then you are recall the scene that you saved before.

B、S-Mix-E1818/E3232 Touched LCD Instruction:

Press the “View” on the touched LCD, you can check the I/O status and save it as any scene from 00 to 11, check Fig. 6.2.1.

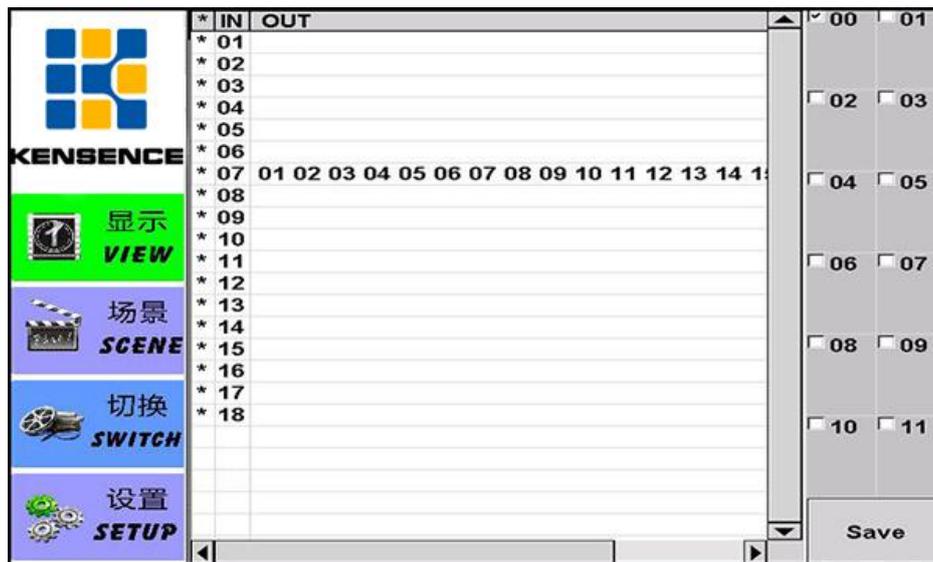


Fig.6.2.1 Touched LCD ---Scene viewing and saving

Press the “Scene” button, you can recall the previous scene that you saved, and all the data will be review on the left, just like Fig.6.2.2.

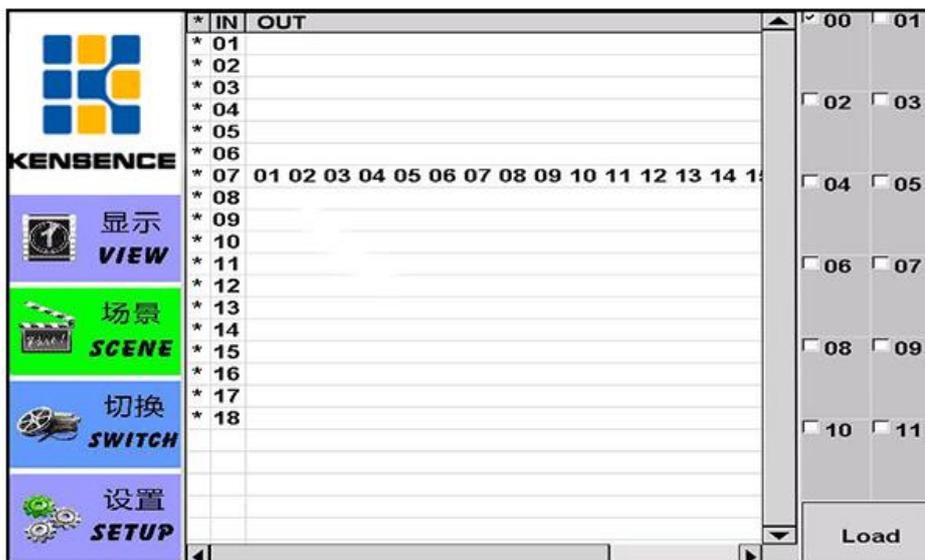


Figure 6.2.2 Scene Recall



Press the “Switch” button, you can switch the input and output. You can start like this, choose the input on the screen, like Fig.6.2.3, Channel 2 for example, then the Output port will automatically popup, like Fig.6.2.4, choose the output port , then it will be marked “√”, press it again it will be cancelled. After the set-up is completed, press the “OK” button then process will be done.

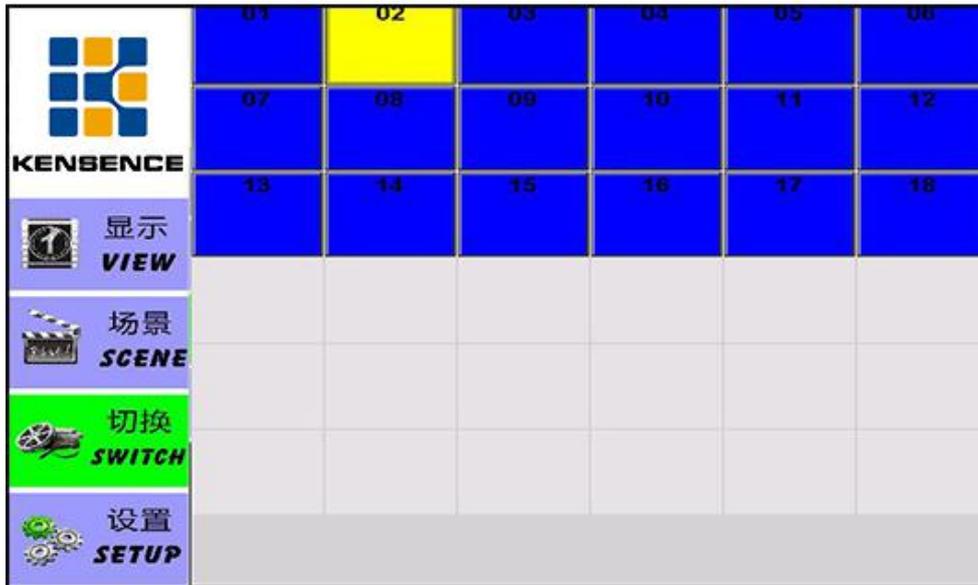


Figure 6.23 Input Selection Menu



Figure 6.24 selection screen of output port

Click the “set” on the touch screen , can display and set IP address ,as figure 6.2.5

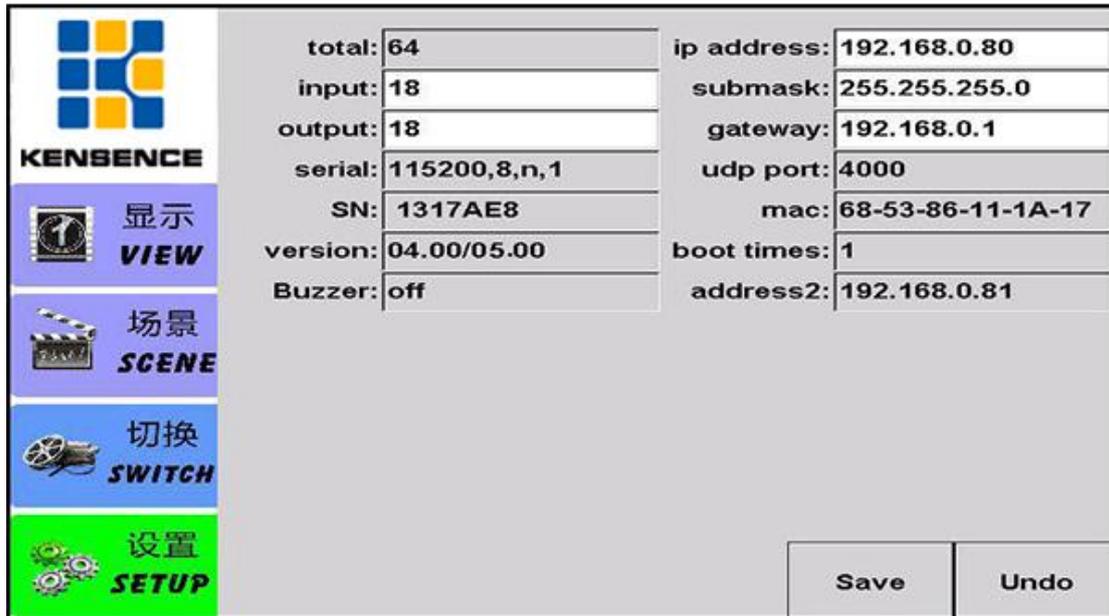


Figure 6.2.5 IP address setting

Remark : The operation method of S-Mix-E3232’s touch screen is same as the operation of S-Mix-E1818, Please refer to S-Mix-E1818’s operation method to use.

6.3 Usage of matrix’s PC software

Host software is a green software , copy “client.Exe” to computer , The computer is which can use RS232 COM port or TCP/IP control matrix.

Preparation:

1.Use the RS232 cable type(using direct serial prot cable) or

TCP/IP(LAN)connection and host computer.

2.Start the host power supply .

3.Double-click “Client.exe” icon to run .The pupuo window as shown in figure

6.3-1 interface .

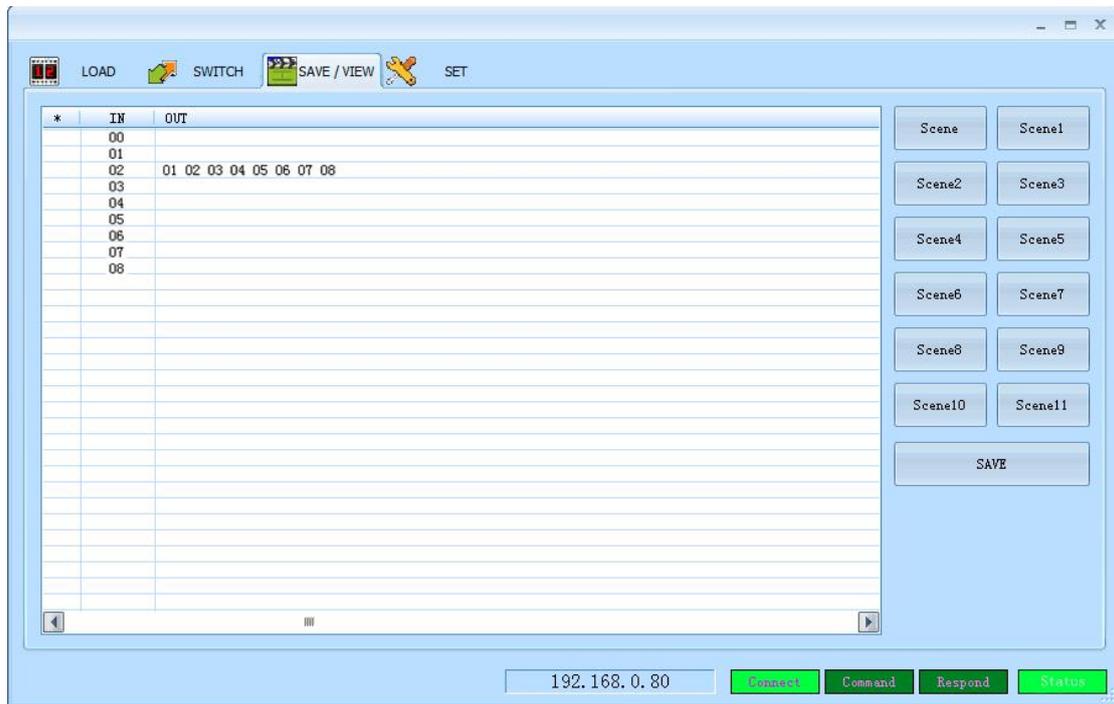


Figure 6.3-1

A Operating steps of serial port RS232 controlling matrix

Connect the computer's RS232 port and the matrix's RS232 port with the Straight RS232 cable. Determine the port number(such as com8), click "Setup", select "Serial" and "COM8" communication port, click "Load" on the left side. If the connection is correct, parameters of the matrix will appear on the interface. See figure 6.3-2



Figure 6.3-2

B. Operating steps of LAN port controlling matrix

Select “set” ,select “Ethernet” , fill in the correct factory IP Address , click “save” , The status bar is displayed as green, which indicates that the network has been connected right ,click”load ”it will show the matrix’s parameters as figure 6.3-3



Notice: It's necessary to configure the PC's IP when we use LAN port control mode. See figure 6.3-4. The factory default IP address is 192.168.0.80 .

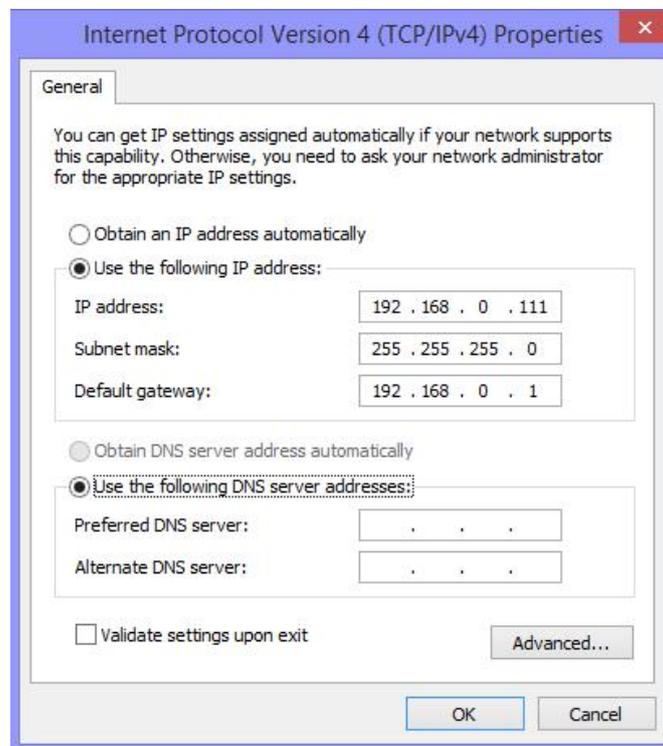


Figure 6.3-4

6.4 Operating steps of changing the name of the input/output signals

Click “SWITCH” to enter the switching interface. Select NO.1 input and double click it. Figure 6.4-1 pops up. Change the name of the NO.1 input signal and then save it.

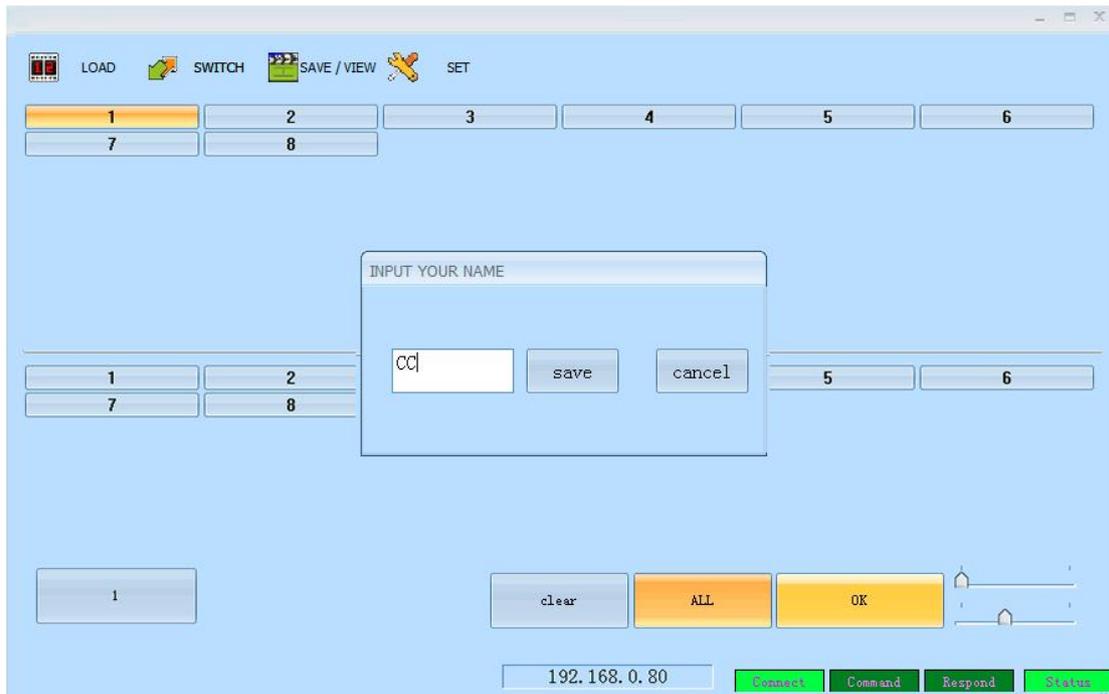


Figure 6.4-1

Click “SWITCH” to enter the switching interface. Select NO.1 output and double click it. Figure 6.4-2 pops up. Change the name of the NO.1 output signal and then save it.

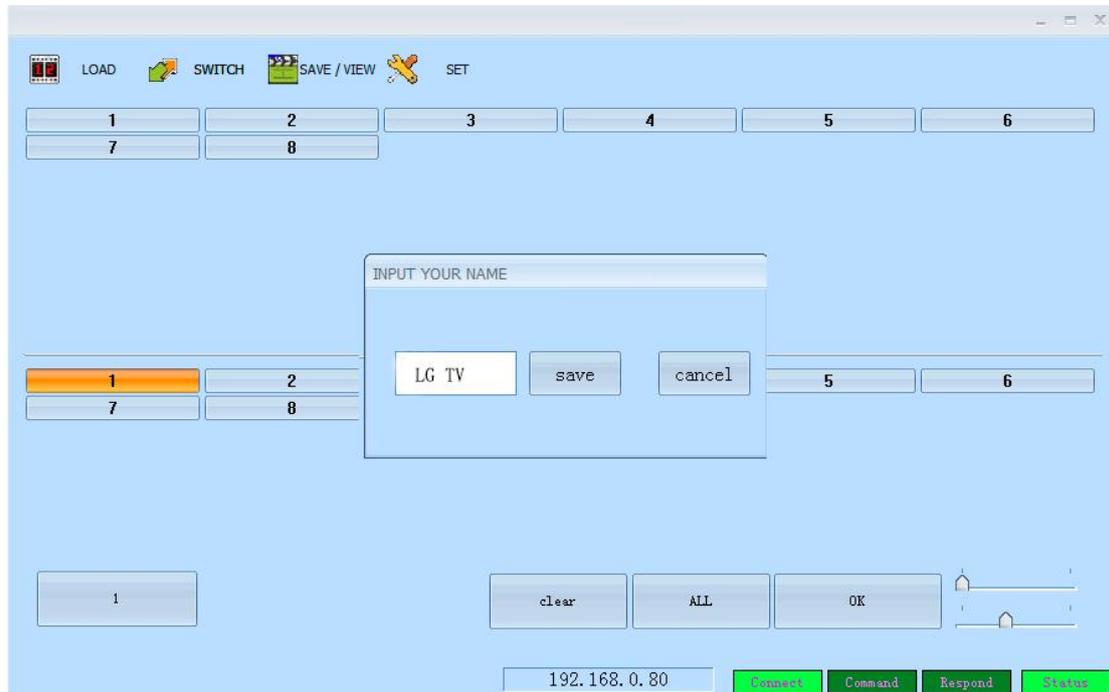


Figure 6.4-2

6.5 Switching operation of matrix

Press “Switch” to enter the switching interface. Choose input port first, then choose the needed output port on the pop-up interface (the selected port turns yellow). See figure 6.5-1. Click the number again to cancel the output port, and the port turns grey. You can choose multiple ports at a time. After all selection, press “OK” to achieve the switching operation.

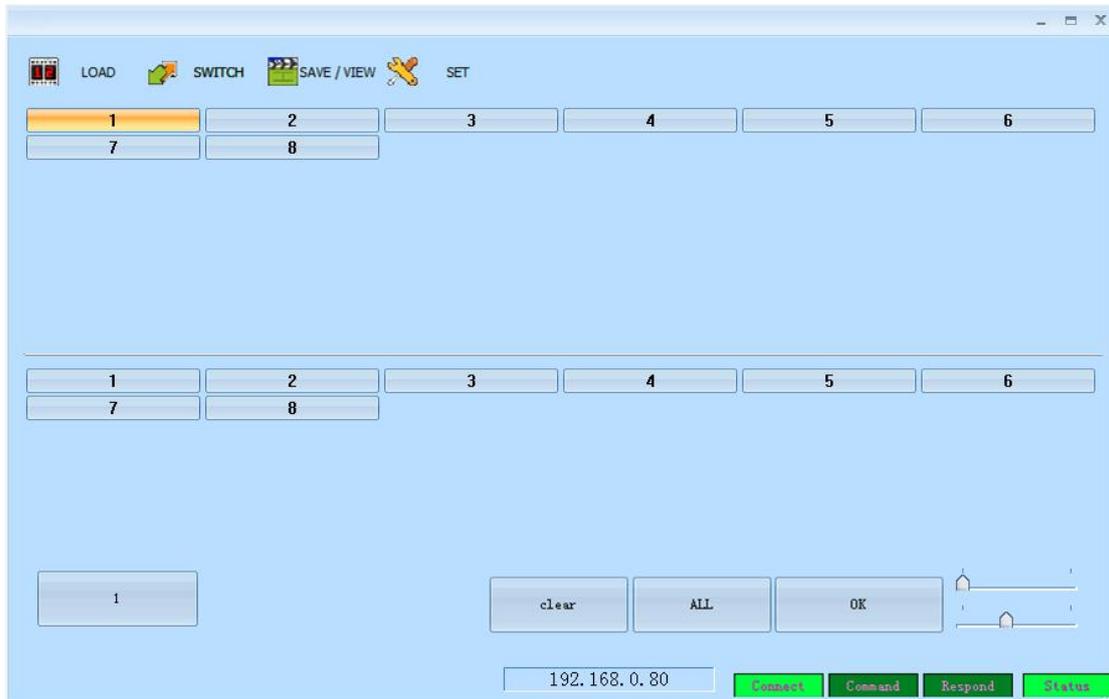


Figure 6.5-1

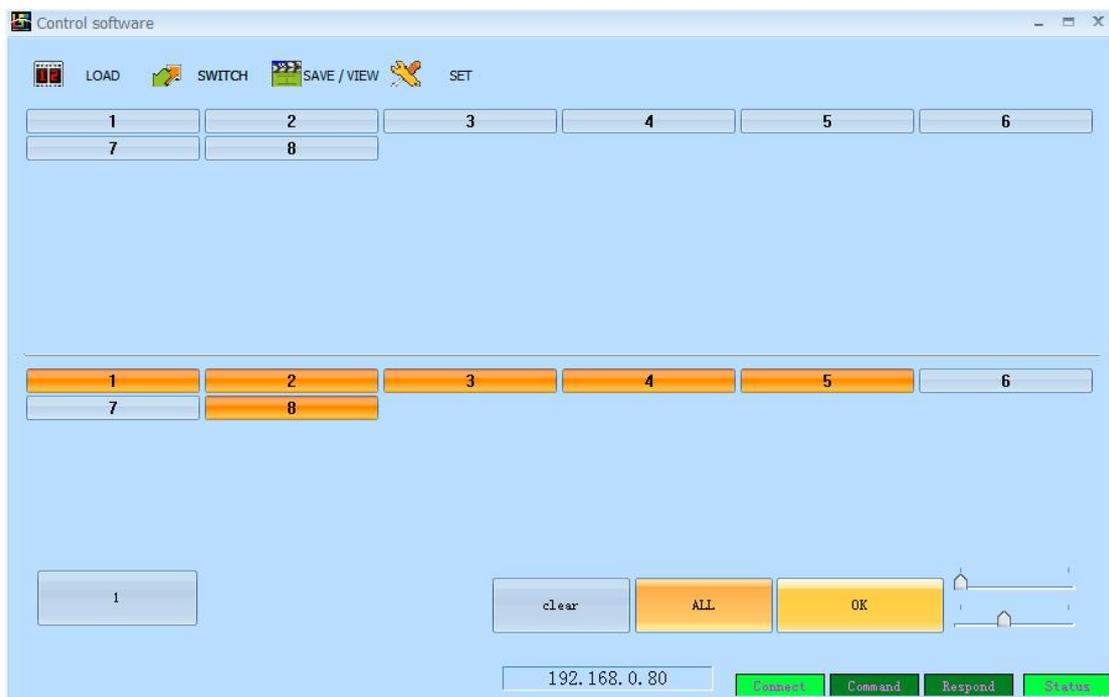


Figure 6.5-2

The NO.1 input channel can be switched to NO.1, 2, 3, 4, 5, 8 output channels by operating as Figure 6.5-1 and 6.5-2.

6.6 Save scene operation of matrix

Press “Save/View” to enter “Save/View” interface. See figure 6.6-1. Press “Previous” to check the current configuration of the matrix. Choose “Scene1” , press “Load” , then we can save the current scene to “Scene1” permanently. If “Scene1” already saved scene before, press “Scene1”, then we can view it .

Notice: Scenes saved in “Previous”are current configuration, it changes according to the matrix’s configuration.

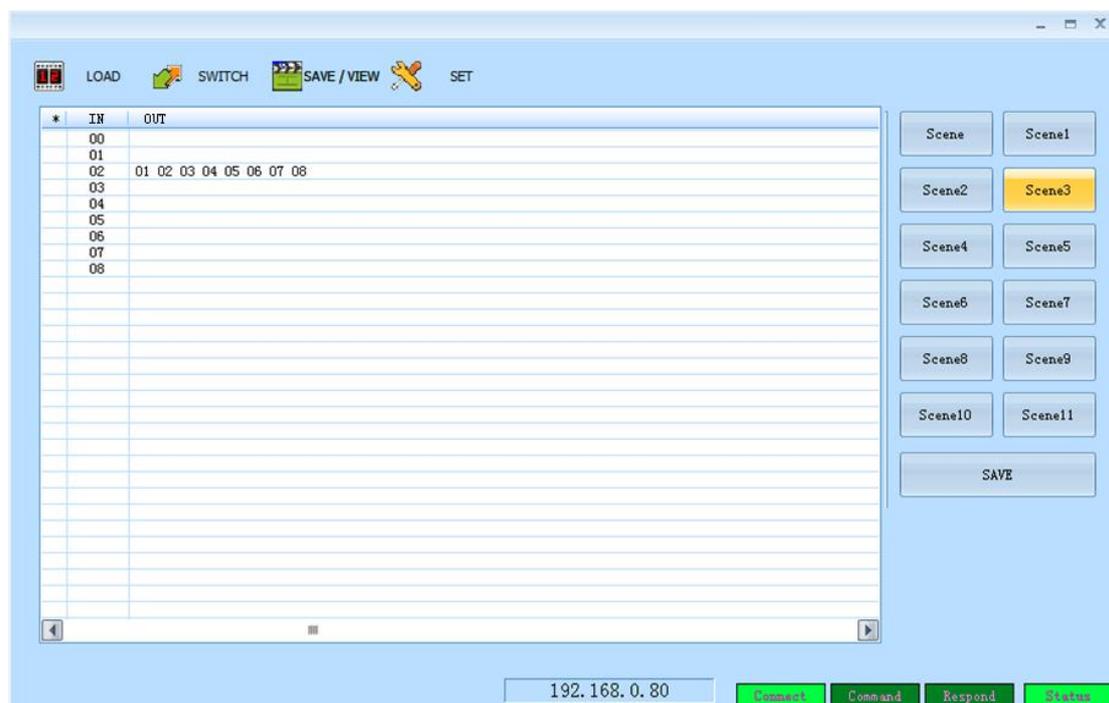


Figure 6.6-1

6.7 Load scene operation of matrix

Press “Load” to enter “Load” interface. See figure 6.7-1. Choose “Scene1” , press “Load” , then we can load the scene saved in “Scene1”. Meanwhile, we can see the specific configuration of the loaded scene on the right side of the interface.

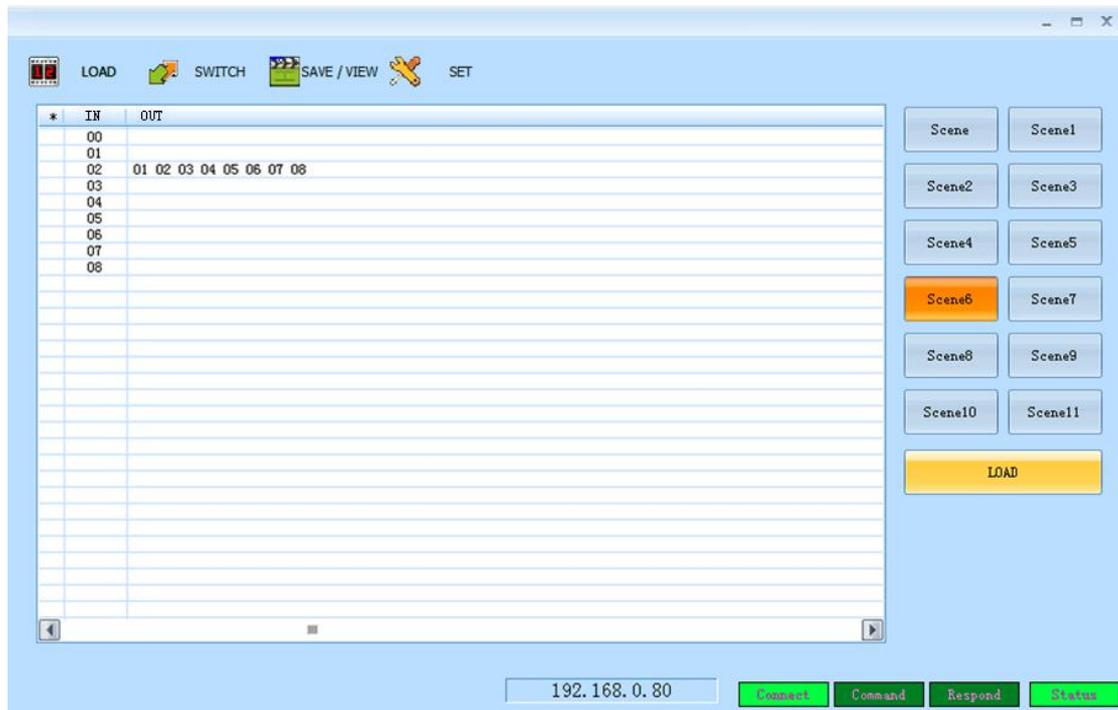


Figure 6.7-1

6.8 FAQ

1. Serial port operation is out of order, cannot control the switching;

Possible cause: The serial port is damaged or not started; Solution: Make sure the port uses cross serial port line, check the connection of PC software serial port

2. Common troubleshooting

Power failure: Check the power fuses and connecting lines;

Signal interference: Make sure the cables and plugs are connected well, the cables meet the requirements, the system is ground connected well, the AC power between devices have the same grounding system; Accidental damage: Sent back to the manufacturer for recondition.

7.Communication protocol and control instruction code

Communication protocol: (Baud rate 115200, data bits 8, stop bit 1, no parity bit)

Type	control instruction	Functional description
Operating instructions	aXb.take.	Switch a channel input to b channel output
	aX1-b.take.	Switch a channel input to 1-b channel output
	aXb1,b2,b3.take.	Switch a channel input to b1,b2,b3 channel output
	a1Xb1.a2Xb2.a3Xb3.take.	Switch a1,a2,a3 channels input to corresponding b1,b2,b3 channels output
	Save[Y].	Save current scene to [Y], [Y] means number keys from 1 to8
	Recall[Y].	recall the input/output switching saved in [Y], [Y] means number keys from 1 to 8
	Buzzer on..	Turn on buzzer
	Buzzer off.	Turn off buzzer

Remarks:

1. a represent input , b represent output,The subscript "1", "2", "3" in instruction are not input characters.Numerical range of a and b decided according to the matrix type. For example, S-Mix32*32 matrix has up to 32 input/output channels. Any channel out of range of 1-32 would be regarded as input error.
- 2、 Do not forget the last punctuation “.” . Every instruction ends with the punctuation “.” . Punctuations are all English punctuations;
- 3、 Pay attention to the letter case. (Save/Recall/Buzzer These 3 words should be capitalized.)

Examples of some codes

- 1.Input “1X2.take.” to switch NO. 1 channel input to NO. 2 channel output;
- 2.Input“1X1-5.take.” to switch NO. 1 channel input to NO. 1-5 channels output.
- 3.Input “1X3,4,5.take.” to switch NO. 1 channel input to NO. 3,4,5 channel output;
- 4.Input “4X3.5X4.6X5.take.” to switch NO. 4,5,6 channel input to NO. 3,4,5 channel output;
- 5.Save current scene: Save[Y].
For example: Input “Save7.” to save the current scene to NO.7 storage unit.
- 6.Load the saved code: Recall[Y].
For example: Input “Recall7.” to load the scene saved in NO.7 storage



unit.

7. Turn on and turn off the buzzer.

For example:

Buzzer on: The buzzer is turned on, and we hear buzzing when switching .

Buzzer off: The buzzer is turned off, and we hear no buzzing when switching .

8. Version and manufacture information

Description of version (Document number: DOC-*S-Mix-0001#)		
Date	Version number	Description
July,2015	V1.01.01	First version