Zenty | Professional A/V Solution Provider

User Manual [V1.0]





[ZT-131 I ZT-MC18] 18x18 Modular Matrix Chassis

[ZT-127 I ZT-MC36] 36x36 Modular Matrix Chassis

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HDMI HIGH DEFINITION MULTIMEDIA INTERFACE
RoHS compliant

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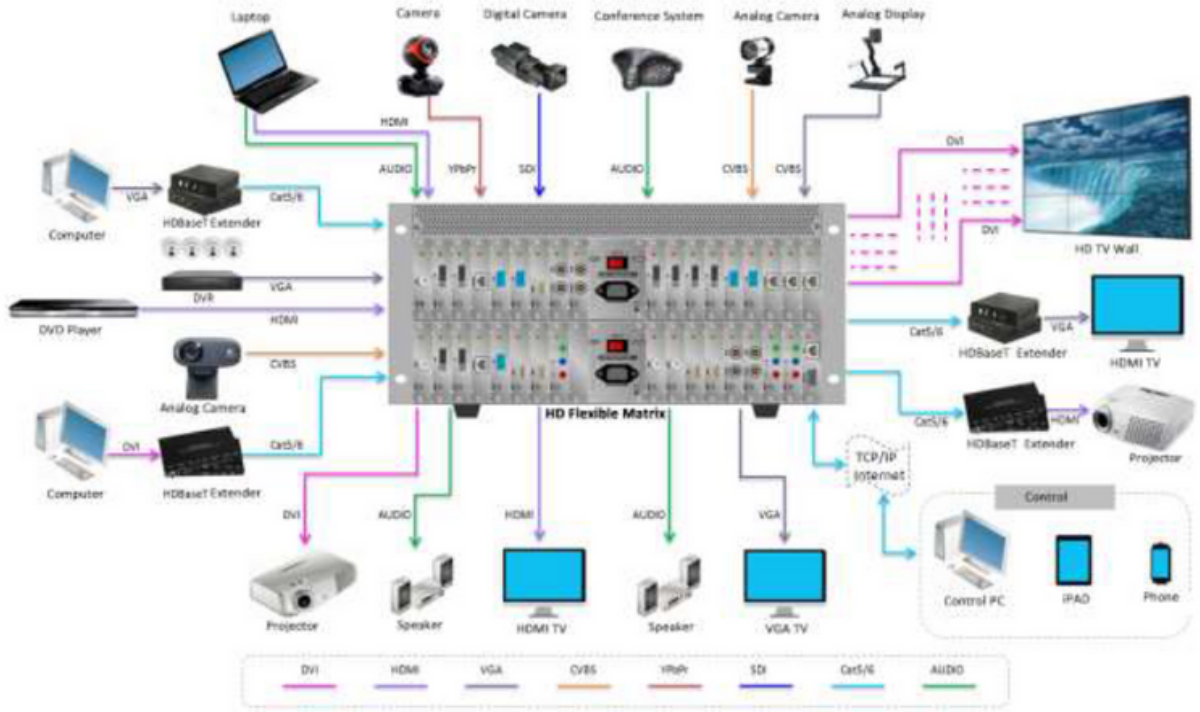
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1. Introduction

With pure hardware modular chassis structure, it provides a flexible and convenient way to realize any configurations. The I/O cards are range from the HDMI, VGA, CVBS, YPbPr, HDBaseT, Fiber Optic, SDI, all cards can support the 3.5mm audio function. It also supports IR remote, RS232 and TCP/IP/ visual front buttons control. It also supports the TV Wall function, splicing edge adjustment, seamless switching and 32 presets save/recall, presets recycling set up etc.

2. Connection Diagram



3. Features

- Seamless Switching, no black/ blue/ flicking screen while switching
- Resolution adjustable from the control software➢ All cards can support corresponding 3.5mm audio embedded or de-embedded
- Supports TCP/IP, RS232 and IR remote control
- Modular design chassis, easier for the cards replacement
- Supports hot-plug
- Supports OSD mark on the input sources
- Supports TV Wall Function and splicing edge adjustment
- Supports flexible inputs and outputs configurations:
- inputs+outputs≤17 or inputs+outputs≤36

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4. Input / Output Cards

4.1 DVI Input / Output



- Supports Seamless Switching
- Supports Audio input and output
- Supports 1920x1200@60Hz and below
- Automatic detection resolution change
- Supports EDID management and EDID modify
- Supports RGB4:4:4, YUV4:4:4, YUV4:2:2
- Working signal reminder
- Supports Hot-plug

4.2 HDMI Input / Output



- Supports Seamless Switching
- Supports Audio input and output
- Supports HDMI1.3a, compatibility for DVI1.0 protocol, resolution up to 1080P
- Automatic detection resolution change
- Supports HDCP
- Supports RGB4:4:4, YUV4:4:4, YUV4:2:2
- Working signal reminder
- Supports Hot-plug

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4.3 VGA Input / Output



- Supports Seamless Switching
- Supports Audio input and output
- Supports 1920x1200@60Hz and below resolutions
- Automatic detection resolution change
- Supports image automatic adjustment
- Supports RGB4:4:4, YUV4:4:4, YUV4:2:2
- Working signal reminder
- Supports Hot-plug

4.4 SDI Input / Output



- Supports Seamless Switching
- Supports Audio input and output
- Supports 1080P
- Supports SMPTE269M, SMPTE192M. SMPTE424M and ITU standard

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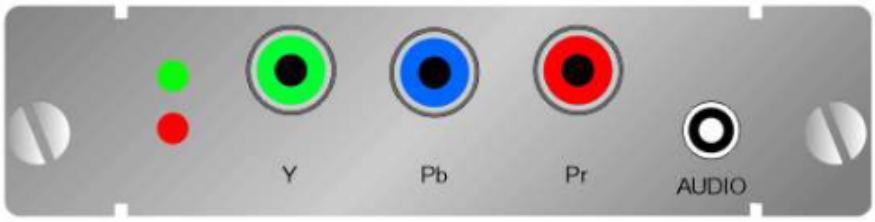
- Supports image automatic adjustment
- Supports RGB4:4:4, YUV4:4:4, YUV4:2:2
- Working signal reminder
- Supports Hot-plug

4.5 CVBS Input / Output



- Supports Seamless Switching
- Supports Audio input and output
- Supports 1920x1200@60Hz and below resolutions
- Using De-interlacing and 3D reducing noise technology
- Supports RGB4:4:4, YUV4:4:4, YUV4:2:2
- Supports PAL, NTSC and SECAM standard
- Working signal reminder
- Supports Hot-plug

4.6 YPbPr Input / Output

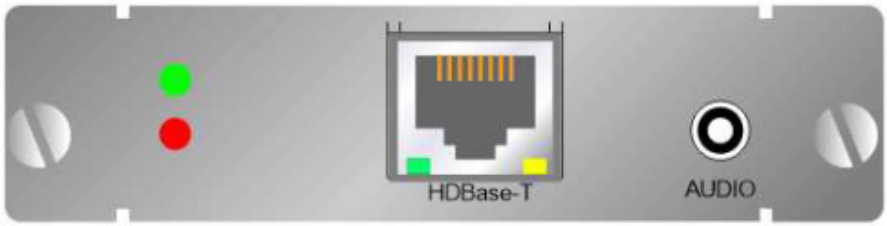


- Supports Seamless Switching
- Supports Audio input and output
- 640x480~1920x1200@60Hz (VESA standard)
- Automatic detection resolution change
- Using De-interlacing and 3D reducing noise technology
- Supports RGB4:4:4, YUV4:4:4, YUV4:2:2

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- Working signal reminder
- Supports Hot-plug

4.7 HDBaseT Input / Output



- Supports Seamless Switching
- Supports Audio input and output
- Supports HDBaseT protocol,640x480~1920x1200@60Hz(VESA standard),
- 480i~1080p@60Hz(HDTV Standards)
- Supports 100m transmission（CAT5E/CAT6）
- Automatic detection resolution change
- Supports RGB4:4:4, YUV4:4:4, YUV4:2:2
- Working signal reminder
- Supports Hot-plug

4.8 Fiber Optic Input / Output



- Supports Seamless Switching
- Supports Audio input and output
- Supports 1920x1200@60Hz and below resolutions
- Support advanced EDID management, adjustable EDID
- Supports adjustable brightness, comparison of the RGB
- Supports Hot-plug

5. Front and Back Panel

5.1 Front Panel



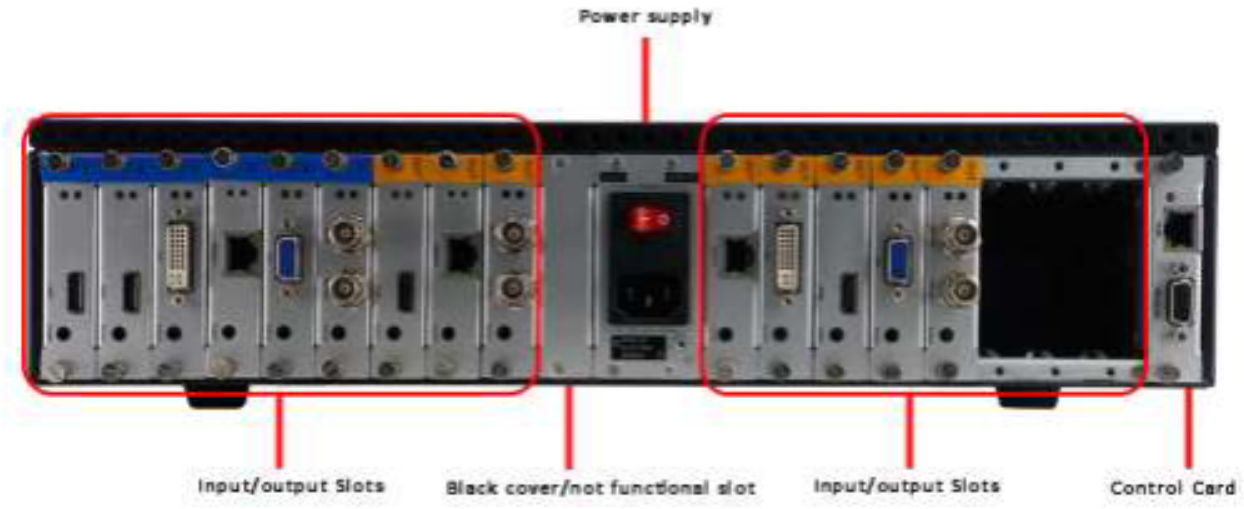
- **LCD screen:** displays the status of each output port.
- **POWER:** Light on, power have been well connected
- **ACTIVE:** Light on, working well
- **IR:** Supports remote control, to receive the control info
- **INPUTS SELECTION:** 0~9 input buttons
- **OUTPUTS SELECTION:** 0~9 input buttons
- **MENU:** With the input numbers to set up Baud rate, buzzer and IP and so on
- **RECALL:** To recall the saved scenes
- **SAVE:** Save current switching status to 1~32 scenes
- **LOCK:** Lock and Unlock, keep pressing for 5 seconds to lock and unlock
- **ENTER:** To make sure to perform
- **CANCEL:** Cancel previous operation

&: To select above 2 outputs. Eg. Input 1 to 3,4,8, first to press input 1, then press 3+&+4+&+8+ENTER

←: When choose above 2 outputs, press this button can cancel the wrong chosen output and choose the right one

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5.2 Rear Panel



6. Control Software

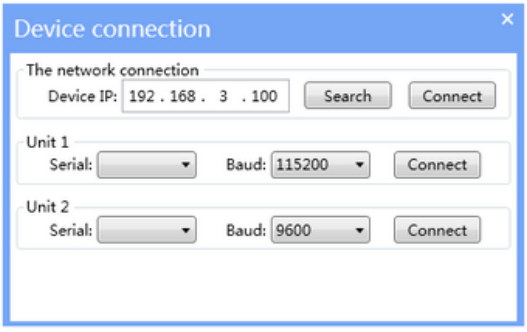
6.1 Run the software

Open control software and click to run the software, for the admin user, the default password is: admin



6.2 Connect to the control port

Click “Connect” on the control software, will show below interface:



IP/Network control: the default IP address is:

LAN 1: 192.168.0.80

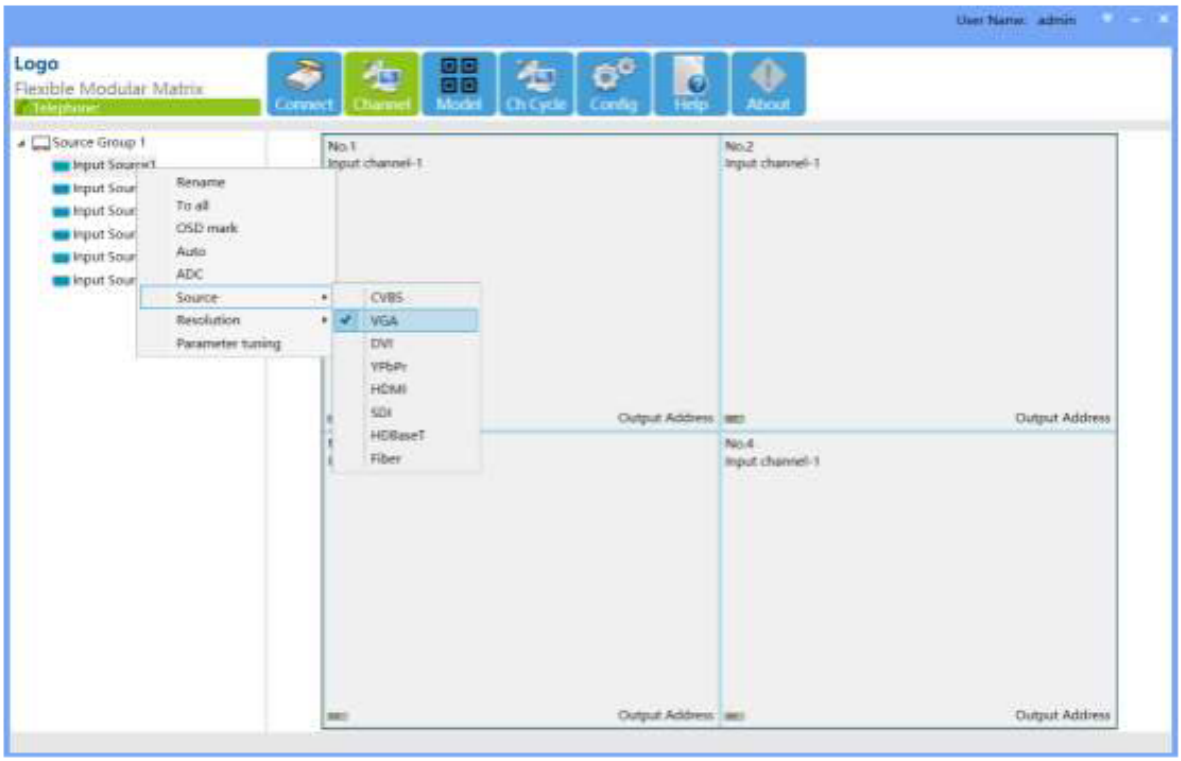
LAN 2: 192.168.1.80

Serial/COM control:

baud rate: 115200, choose the corresponding port to connect

6.3 Channel interface

Click Channel will show below interface, all the input sources will be grouped/listed on the left, and the right side is for the outputs. Users can right click on the input source to rename, switch to all outputs, OSD mark, change sources type etc.



6.4 Right click on the Outputs

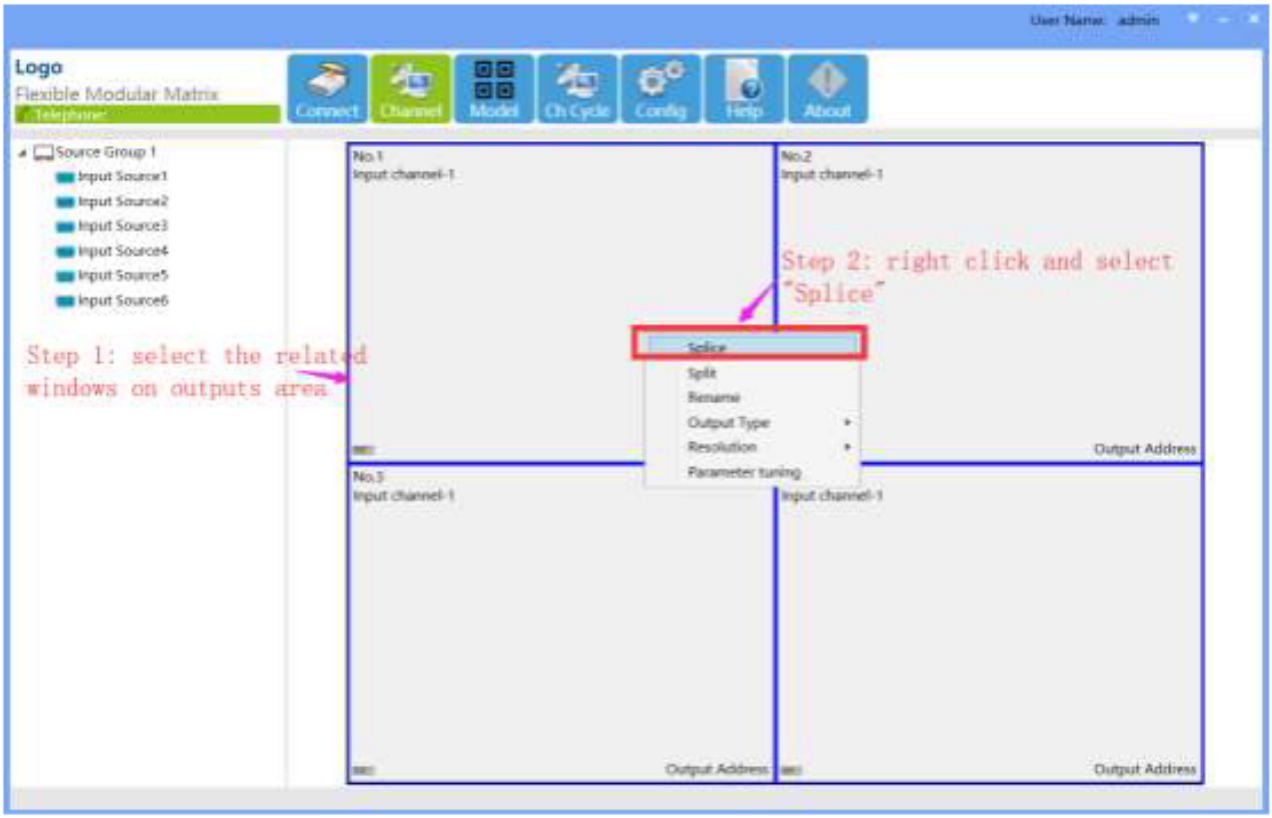
When move the mouse to the outputs area, can select the related windows to realize the Splice(TV Wall)/split/ rename/output type/ parameter setting.

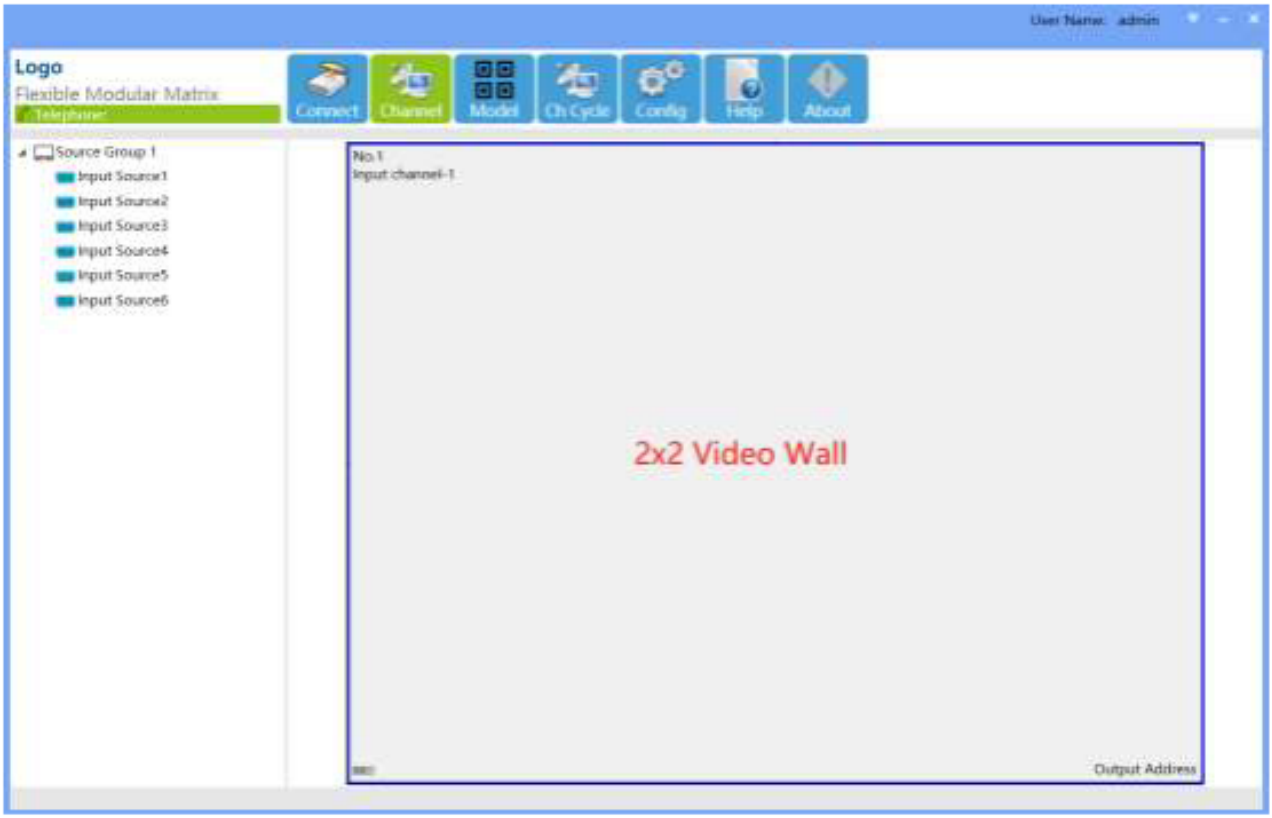
Two steps to set up the TV Wall:

Step1: Select the related windows on the outputs area(Eg. Making a 2x2 Video Wall, select 4 related windows)

Step2: Right click on the selected window, and select “splice”

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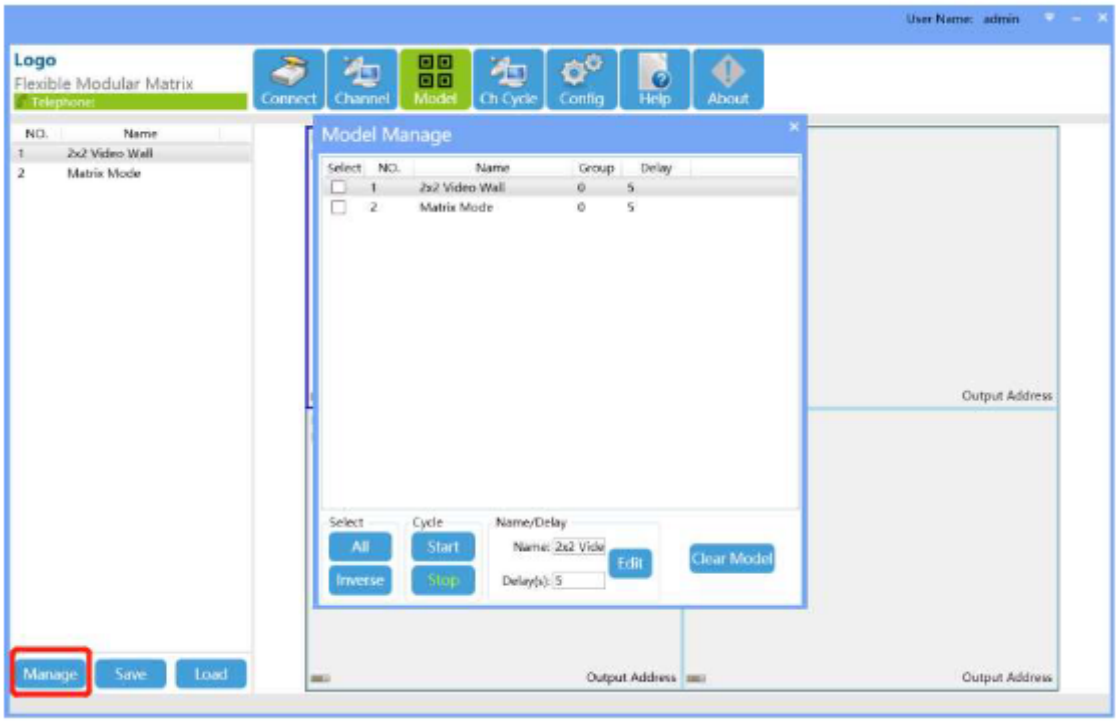


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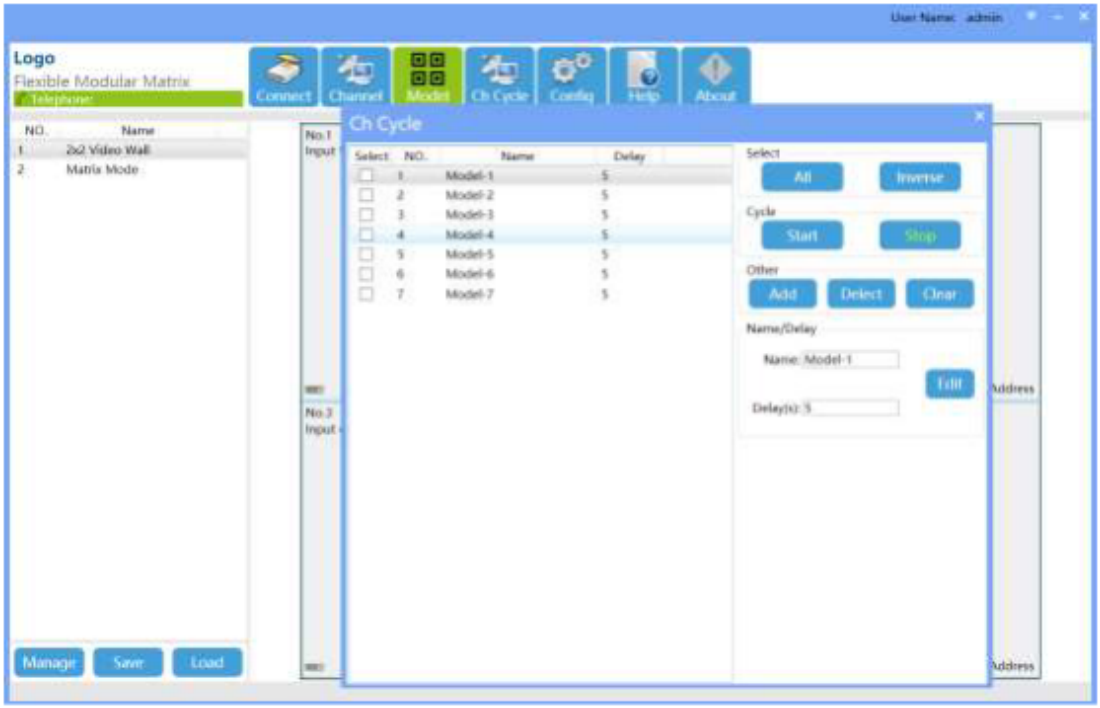
6.5 Model Interface

Users can user save, load and manage the presets here.

Manage all the saved models/presets, can rename, set up the models recycling, time and clear all the models.

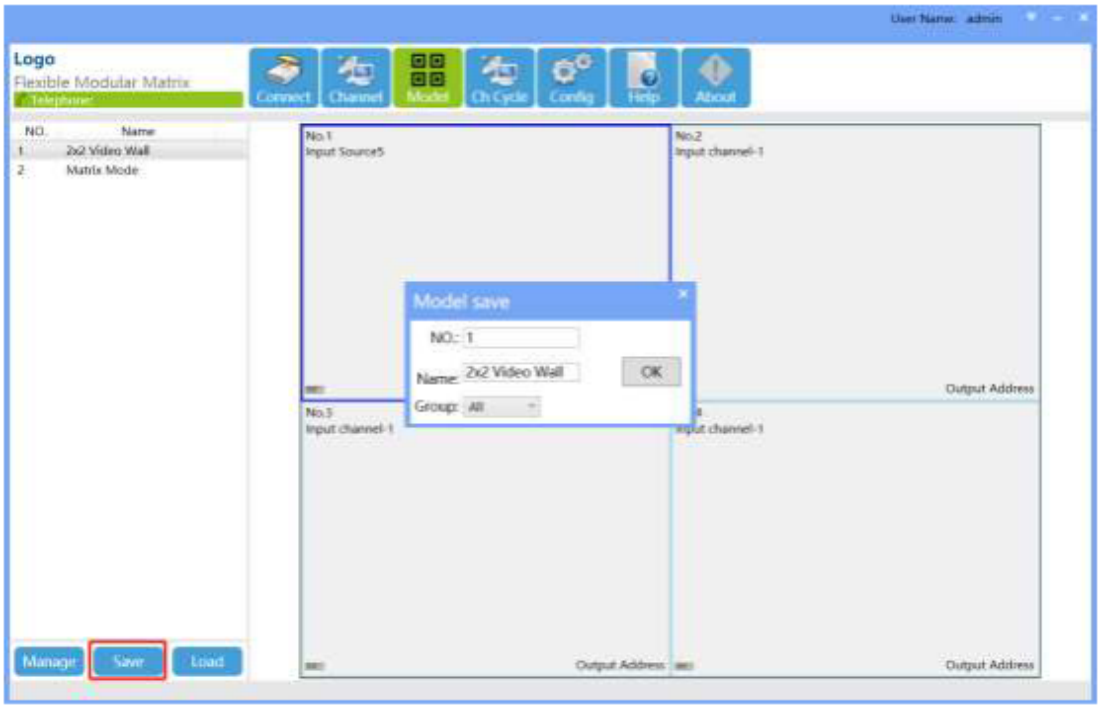


For the model recycling, users also can click the “Ch Cycle” to do the settings:

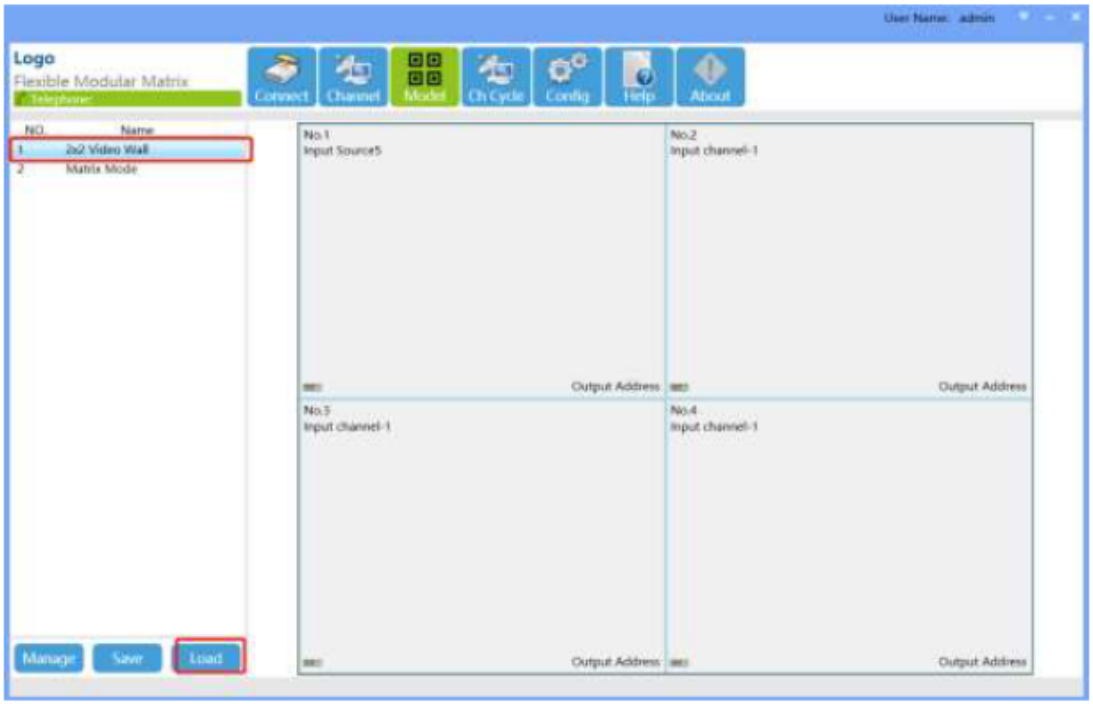


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Save the models/presets, users can click “Save” button to save the current switching status, choose the model No. And and name the model



Load/recall the models/presets, select the model first, then down to the “load” button to recall the model.

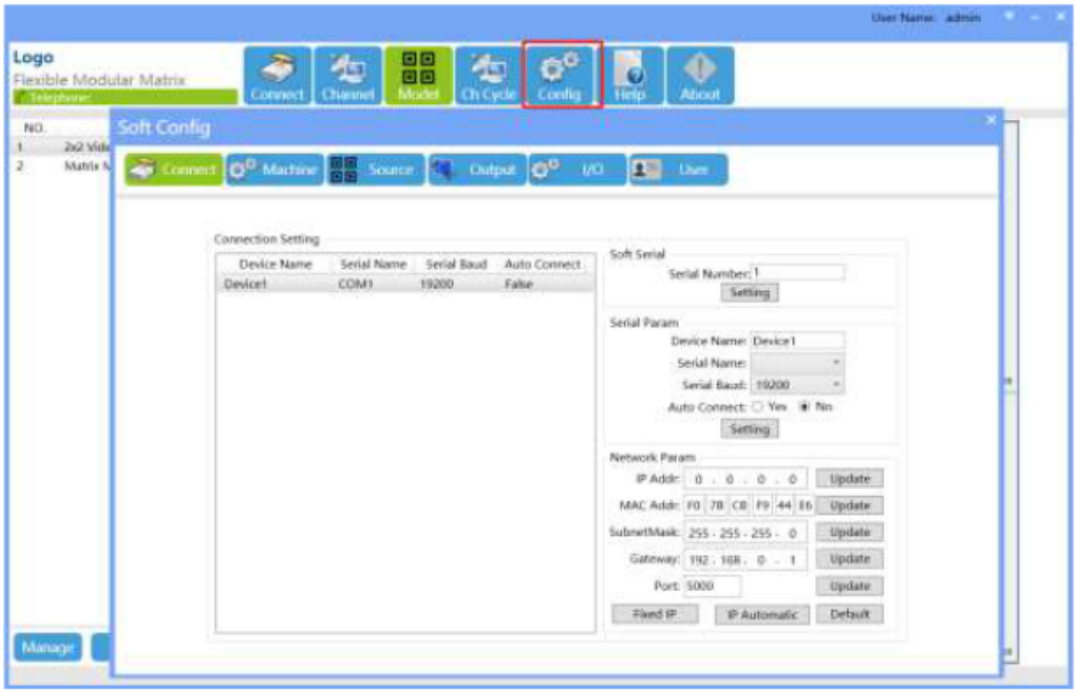


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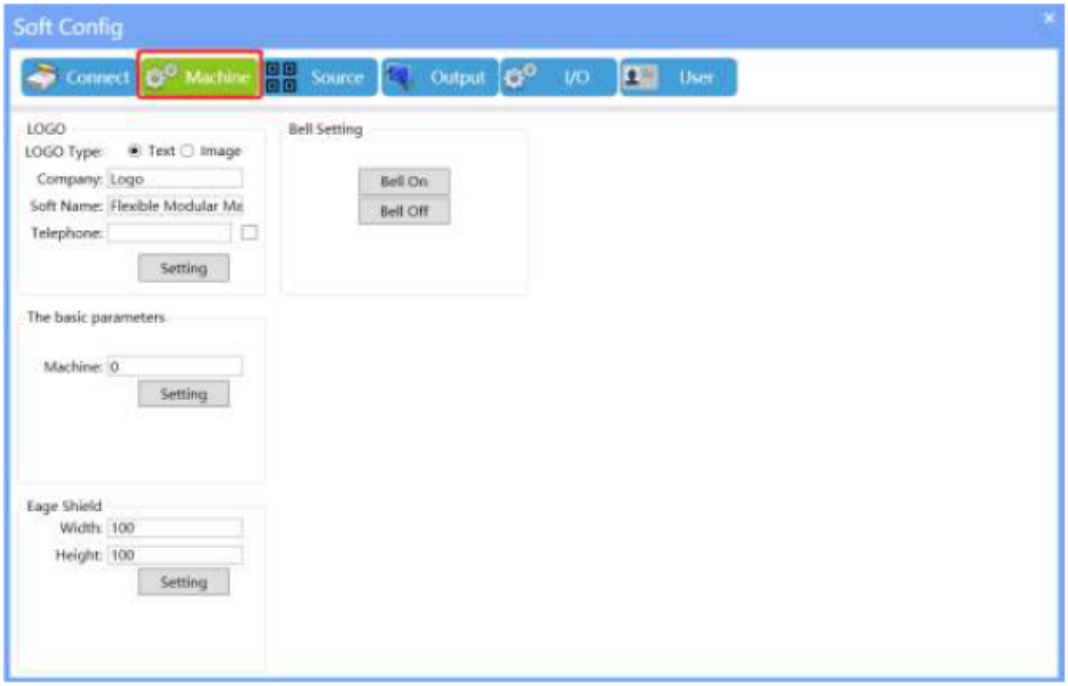
6.6 Config Interface

6.6.1 Connect interface

After click “Config” interface will pop-up the “Soft Config” interface, users can do the IP address, Serial port, Machine and so on settings:

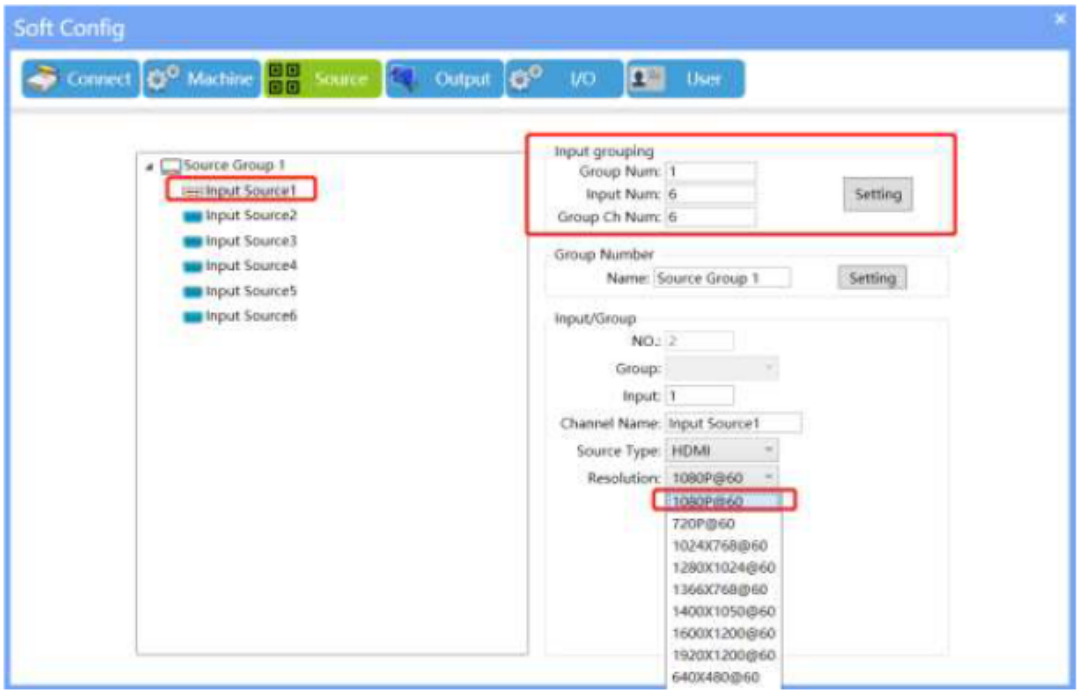


Machine window: users can turn ON/OFF the buzzer sound, TV Wall splicing edge adjustment etc.

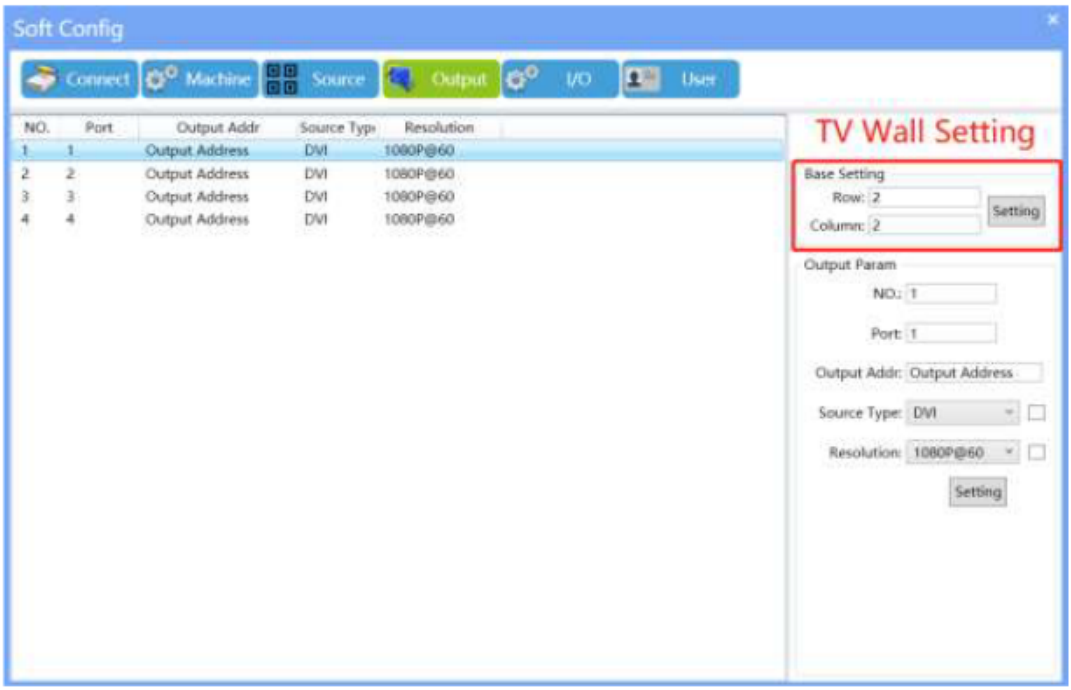


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Source window: users can set up the sources group, click the source to change the source type, change the input resolutions etc.



Output window: Users can set up the Video Wall here, output port map, output sources type, resolution, names.

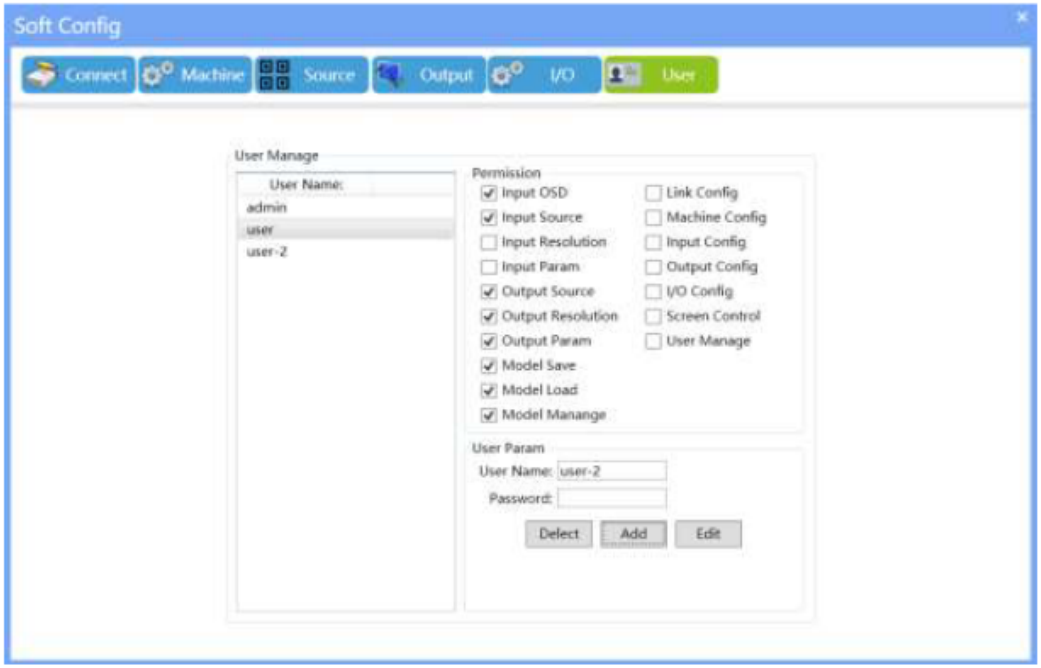


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I/O Window: user can do the Input and output cards configuration here, first to select the corresponding model number, enter the input and output card number, then click to refresh the configuration.



User window: Admin could add and manage different users with different rights



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7. Specifications

Model number	ZT-MC18	ZT-MC36
Description	Total 18 slots modular chassis	Total 36 slots modular chassis
Control Slot	1	1
Inputs Slot	1~18	1~36
Outputs Slot	1~18	1~36
Inputs card	1 card 1-port input card , supports 3.5mm audio embedded DVI, VGA, CVBS, HDMI, 3G-SDI, YPbPr, HDBT, Fiber Optic	
Output card	1 card 1-port output card, supports TV Wall function, 3.5mm audio de-embedded function, seamless switching. DVI, VGA, CVBS, HDMI, 3G-SDI, YPbPr, HDBT, Fiber Optic	
Resolution	Supports 1920x1200@60Hz (VESA standard) and 180i~10180p@60Hz (HDTV Standards)	
Protocol	Supports DVI1.0 and HDMI1.3, HDCP and EDID management	
Color Space	Supports RGB4:4:4, YUV4:4:4, YUV4:2:0 and YUV4:2:0	
Transmission Bandwidth	10.2Gbps	
Transmission Distance	15m/45ft(Digital Cable), 20m/60ft(Analog Cable), 100m/330ft(Cat6), 300m/900ft(LC, MM Fiber Optic), 2km/6000ft(LC SM Fiber Optic)	
Control Ways	Front Buttons, IR, RS232 and LAN control	
Working	Temperature: -20℃ to +70℃, humidity: 10% to 90%	
Storage	Temperature: -20℃ to +50℃, humidity: 10% to 80%	
Dimension	440x400x98mm (2U)	440x400x225mm (5U)
Weight	12.5Kg	21Kg
Power	100W	200W
Power supply	100~260V 50/ 10Hz	
Safety guarantee	Designed for 24/7 Use	
Average obstacle time	10,000 hours	

8. RS232 Control Code

Baud rate: default 115200;

Data bits: 8bit

Stop bits: 1bit

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Parity bit: None

8.1 Switching command

8.1.1 Single channel switching

PC to Matrix	Function	Matrix to PC	Eg
[X1]V[Y1].	Single Video input [X1] to[Y1]	V:[X1]->[Y1]!	1V1.
[X1]B[Y1].	Single Audio input [X1] to[Y1]	B:[X1]->[Y1]!	1B1.
[X1]*[Y1]&	Single Video input [X1] to output [Y1]	V:[X1]->[Y1]!	1*1&
[X1]*[Y1]%	Single Video input [X1] to output [Y1]	V:[X1]->[Y1]!	1*1%
[X1]*[Y1]!	Single Video/ Audio input [X1] to output [Y1]	B:[X1]->[Y1]!	1*1!
[X1]V#.	Single Video input [X1] to Corresponding output [Y1]	[X1] V Through!	1V#.
[X1]#.	Single Video/ Audio input [X1] to corresponding output [Y1]	[X1] A/V Through!	1#.

8.1.2 Fast Multiway Switching

PC to Matrix	Function	Matrix to PC	Eg
[X1]V[Y1],[Y2].	Single Video input [X1] to[Y1],[Y2]	V:[X1]->[Y1],[Y2] !	1V1,2,3.
[X1]B[Y1],[Y2].	Single Audio input [X1] to[Y1],[Y2]	B:[X1]->[Y1],[Y2]!	1B1,2, 3.
[X1]All.	Audio input [X1] to all outputs	[X1]A/V TO All!	1All.
[X1]*!	Audio input [X1] to all outputs	[X1]A/V TO All!	1*!
[X1]*&	Video input [X1] to all outputs	[X1] V TO All!	1*&
[X1]*%	Video input [X1] to all outputs	[X1] V TO All!	1*%
AllV#.	All Video channel to all corresponding outputs	All V Through!	AllV#.

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[X1],[X2]V#.	Multiway video inputs to all corresponding outputs	[X1],[X2] V Through!	1,2,3V#.
[X1],[X2]#.	Multiway Audio inputs to all corresponding outputs	[X1],[X2] A/V Through!	1,2,3#.

8.1.3 Single channel choosing

PC to Matrix	Function	Matrix to PC	Eg.
0V[Y1].	Close single Video output [Y1]	V:OFF->[Y1]!	0V1.
0B[Y1].	Close single Audio output [Y1]	B:OFF ->[Y1]!	0B1.
0*[Y1]&	Close one single Video output [Y1]	V:OFF->[Y1]!	0*1&
0*[Y1]%	Close one single Video output [Y1]	V:OFF->[Y1]!	0*1%
0*[Y1]!	Close single Audio output [Y1]	B:OFF ->[Y1]!	0*1!
[Y1]$.	Close single Audio output [Y1]	B:OFF ->[Y1]!	1$.

8.1.4 Multiway channels closing

PC to Matrix	Function	Matrix to PC	Eg.
[Y1], [Y2]V$.	Close multiway Video outputs [Y1], [Y2]	V:OFF->[X1],[X2]!	1,2,3V$.
[Y1], [Y2]$.	Close multiway Audio outputs [Y1], [Y2]	B:OFF->[Y1],[Y2]!	1,2,3$.
AllV$.	Close all the Video outputs	All V Closed!	AllV$.
All$.	Close all the Video outputs	All A/V Closed!	All$.

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8.1.5 Scene save and recall

PC to Matrix	Function	Matrix to PC	Eg.
Save[N].	Save current Audio and Video connection ways to No.N	Save To F[N]!	Save1.
Recall[N].	Reuse the saved No.N scene	Recall From F[N]!	Recall1.
Clear[N].	Clear No.N scene	Clear F[N]!	Clear1.

8.2 Review Status

8.2.1 Channel connection status

PC to Matrix	Function	Matrix to PC	Eg.
Status[Y1].	Review single Audio/Video output	V:[X1]->[X2]!	Status1.
	connection status	A:[X1]->[X2]!	
Status.	Preview all Audio/Video outputs connection status	V:[X1]->[X2]! A:[X1]->[X2]!	Status.

8.2.2 System preview

PC to Matrix	Function	Matrix to PC	Eg.
*Version;	Preview Matrix Version	Version:[X5]	*Version;
*Type;	Preview Matrix Types	Type:[X5]	*Type;
*MIP;	Preview network mode Preview network port No. Preview network port No. Of main PC Preview IP of Matrix	DHCP:Use/NO Use! MPORT:[X5]! CPORT:[X5]! MIP:[X5]. [X6]. [X7]. [X8]!	*MIP;

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	Preview the gateway Preview Subnet Mask Preview MAC	GATE:[X5]. [X6]. [X7]. [X8]! SUB:[X5]. [X6]. [X7]. [X8]! MAC:[X5]-[X6]-[X7]-[X8]-[X9]-[X10]!	
*Bell;	Preview buzzer	Bell:On/Off!	*Bell;
*BR;	Preview Baud rate	Baudrate:9600!	*BR;
*ConnectTest ;	Preview serial connection	Connect OK!	*ConnectTest ;

8.3 Command set up:

PC to Matrix	Function	Matrix to PC	Eg.
/:BellOff;	Off buzzer warning tone	Bell Off!	/:BellOff;
/:BellOn;	On buzzer warning tone	Bell On!	/:BellOn;
/:MessageOff;	Off message via PC serial port	Message Off!	/:MessageOff;
/:MessageOn;	On message via PC serial port	Message On!	/:MessageOn;
/:BR[X4];	Set up baud rate	Baudrate:9600!	/:BR9600;
/%Lock;	Lock keyboard	System Locked!	/%Lock;
/%UnLock;	Unlock Keyboard	System UnLocked!	/%UnLock;
/#MPORT[X1];	Set up MPORT of matrix	MPORT:[X1]	/#MPORT5000;
/#CPORT[X1];	Set up CPORT of Main PC	CPORT:[X1]	/#CPORT5100;
/#MIP[X1].[X2].[X3].[X4] ;	Set up IP	MIP:[X1].[X2].[X3] .[X4]	/#MIP192.168.0.2;

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/#GATE[X1].[X2].[X3].[X4] ;	Set up gateway	GATE[X1].[X2].[X3].[X4] ;	/#GATE192.168.0.1；
/#SUB[X1].[X2].[X3].[X5];	Set up SUB	SUB[X1].[X2].[X3].[X5] ;	/#SUB255.255.255.0；
/#MAC[X1]-[X2]-[X3]-[X4]-[X5]-[X6];	Set up MAC	MAC:[X1]-[X2]-[X3]-[X4]-[X5]-[X6]	/#MAC55-44-33-22-11-00;
/#DHCPUSE;	Automatic acquisition IP	DHCPUSE	/#DHCPUSE;
/#DHCPNOUSE;	Fixed IP	DHCPNOUSE	/#DHCPNOUSE;
	Network parameter setting not correct	Out of range!	
	Network Set up successfully	NETSET:OK	

The network port default parameters

Network port No.: 5000	Main control network port No.: 5100
Matrix Network IP：192.168.0.80	Main control network IP：192.168.1.80
Matrix network gateway No.: 192.168.0.1	Matrix network SUB：192.168.1.0
Matrix network hardware initialization: 0x55.0x44.0x33.0x22.0x11.0x00;	

8.4 System command

/#Reset;	Reset	System Reset!	/#Reset;

9. Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner, or benzine to clean.

10. Warranty

If your product does not work properly because of a defect in materials of workmanship, our company (referred to as "the warrantor") will, for the length of the period indicated as below, "Parts and Labor (5) Years", which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" limited warranty period, there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers products purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

11. Mail-In Service

When shipping the unit, carefully pack and send it prepaid, adequately insured, and preferably in the original carton. Include a letter detailing the complaint and provide a daytime phone and/or email address where you can be reached phone and/or email address where you can be reached.

12. Limited Warranty Limits and Exclusions

This Limited Warranty ONLY COVERS failures due to defects in material or workmanship and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, mis-adjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributed to acts of God.

There are no express warranties except as listed under "Limited Warranty Coverage". The warrantor is not liable for incidental or consequential damages resulting from the use of this product or arising out of any breach of this warranty. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive but are for illustration only). Parts and service, which are not covered by this limited warranty, are your responsibility.



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