USER MANUAL

MINI MANAGER Modular Matrix Switcher Series

MM-Series-9x9/18x18/36x36

Version: V2.0.1

Preface

We are honored for your purchasing of our products. In order to have the best performance of the products, please read the user manual carefully before using them. Hope this user manual can bring more convenience, and please don't hesitate to get in touch with us or your local dealer if you have any issue during your usage.

Note: This user manual is for 9x9 matrix switch, 18x18 and 36x36 also can reference this user manual.

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.

Attention the equipment needs good earth grounded

➢ Please use single-phase three wire system AC 220V power supply, and ensure all transmission system is grounding well.

➢ 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 which 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 over temperature.

➢ 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.

Contents

1. Product Introduction

The MINI MANAGER modular matrix switcher series have 3 models: MINI-MANAGER-900(9x9), MINI-MANAGER-1800(18x18) and MINI-MANAGER-3600(36x36). All the signal input and output cards using 1-card 1-port, wide range selections of the input and output cards, it provides users the most flexible configuration ability to meet with the real applications. And the 1080P and 4K60 I/O cards can reach any switching, converting, extension, resolution adjustment. Supports seamless or fast switching function, electromagnetic protection function, it can efficiently shield the electromagnetic interference for the surrounding environment to make sure the equipment running more stable.

The single channel signal switching speed can reach 12.5Gbps, and the main board is using Four core four links processing technology, the switching ability speed can reach 32Gbps. 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

➢ Modular designing chassis
➢ 1 channel 1 card, supports DVI-I/ HDMI/ 3GSDI/ HDBaseT/ Fiber to mix input and output
➢ Support seamless switching between all the signals
➢ 4-core 4 links processing chipset provides up t0 32GBPS signal switching processing ability
➢ Front buttons with background lights, easier to operate at any time
➢ Support EDID automatic recognition and compatible with HDCP
➢ Support 3.5mm audio embedded and de-embedd function
➢ Support 4K60, HDMI2.0 444 digital HD video signal transmission and seamless switching
➢ Support 3D image frequency repairing, pixel reread processing function
➢ Support scaling up/down function via the DIP switch
➢ Support dual LAN ports backup control and centralization network management function
➢ Support hot-plug function
➢ Support auto saving protection and auto recovery function while power cut

3. Technical Datasheet

| Model	MINI-MANAGER-900	MINI-MANAGER-1800	MINI-MANAGER-3600
Description	9x9 modular chassis	18x18 modular chassis	36x36 modular chassis
Input Card	1 Channel 1 Card, support HDMI, DVI, 3GSDI, VGA, YPBPR, CVBS, HDBaseT, Fiber Optic		

Output Card	1 Channel 1 Card, support HDMI, DVI, 3GSDI, VGA, YPBPR, CVBS, HDBaseT, Fiber Optic		
Protocol	HDMI1.4a/ HDMI2.0, DVI1.0, compatible with HDCP and EDID function		
Color Space	RGB444, YUV444, YUV422, support x.v.Color extension color gamut standard		
Resolution	640x480---1920x1200@60Hz(VESA), 480i---4K30Hz(HDTV), 4K60Hz		
Data Speed	12.5Gbps		
Transmission distance	70/100m(Cat6), 80Km(Single-mode), 20m(Digital cable), 25m(Analog cable)		
Control Methods	Broadcasting switching button, dual RS232+LAN control		
Dimension	482*390*88(2U)mm	482*390*178(4U)mm	482*390*355(8U)mm
Weight	6KG(No cards)	12.5KG(No cards)	25KG(No cards)
Consumption	17W(No cards)	21W(No cards)	30W(No cards)
Power Supply	AC 110V-240V 50/60HZ		
Working Temp	-10℃ - 50℃		
Storage Temp	-25℃ - 55℃		

4. Packing Details

Matrix switch chassis with customized configuration ....1 unit

Power cord ....1 pcs

User manual ....1 pcs

5. Panel Diagram

Front Panel
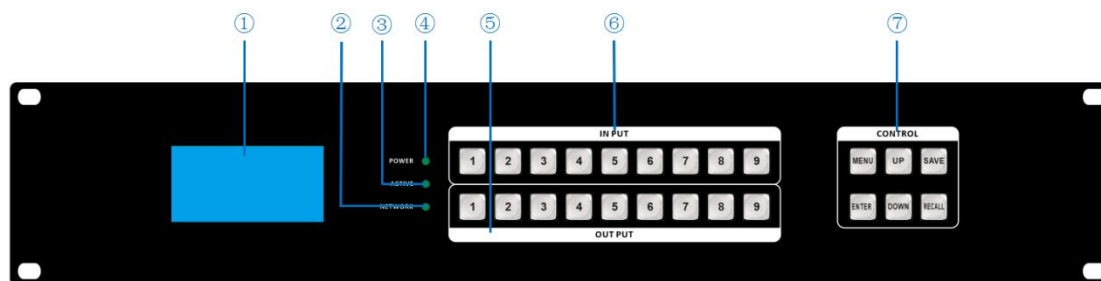


No.	Name	Description	
①	LCD Screen	Operation information real-time Display	
②	POWER	light up after power on, it will light off after power off	
③	ACTIVE	Flashing while using the buttons/ WEB switching successfully	
④	NETWORK	Flashing while using the WEB control operation	
⑤	OUTPUT	Input buttons with background light, from 1~9 input buttons	
⑥	INPUT	Output buttons with background light, from 1~9 output buttons	
⑦	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:
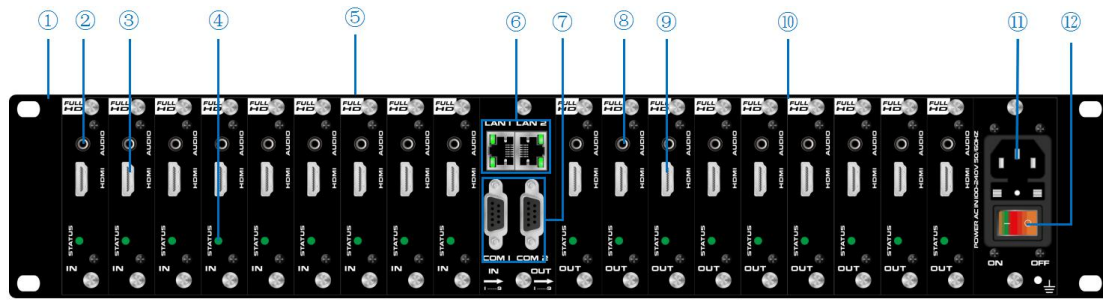
No.	Name	Description
①	Rack ear	For installing on the 19 inch Rack Cabinet
②	3.5mm audio	External 3.5mm audio embedded
③	HDMI Port	HDMI input card
④	Status Indicator	Power on indicator
⑤	Input slots	Supports DVI/HDMI/VGA/CVBS/YPbPr/FIBER/HDBaseT input
⑥	LAN Ports	Dual LAN ports for WEB/TCP/IP control
⑦	RS232 Ports	Dual RS232 ports for 3rd parties control
⑧	3.5mm audio	External 3.5mm audio de-embedded
⑨	HDMI Port	HDMI output card
⑩	Input slots	Supports DVI/HDMI/VGA/CVBS/YPbPr/FIBER/HDBaseT output
⑪	Power Port	AC 220V-240V 50/60Hz
⑫	Power Switch	Power ON/OFF switch with light

6. Equipment Connection Diagram
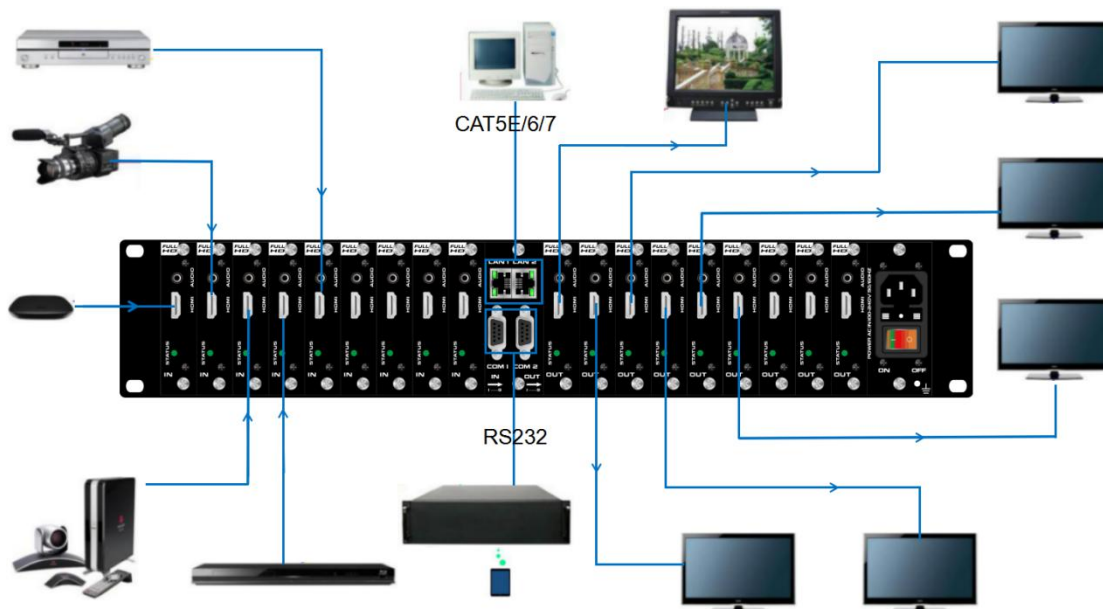
7. Equipment Operation and Instruction

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 1~9 nine input buttons, 1~9 nine 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 24 scenes, after switching successfully in the SWITCH interface, press MENU button and switch to SCENE interface.

➢ Enter the wanted scene save number(1~24), then press SAVE. If want to reload the saved scene, press the scene number and press RECALL button

Note: Via front buttons to save/recall scene, Mini99 only support 9 scenes, Mini1818 supports 18 scenes

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).

7.2.1 Login Operation

Accordingly to connected LAN port, enter the corresponding IP address, if using the LAN1, then enter 192.168.0.80 in the browse(Recommend with Google browse) as below:

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

7.2.2 Switch

Switch interface:
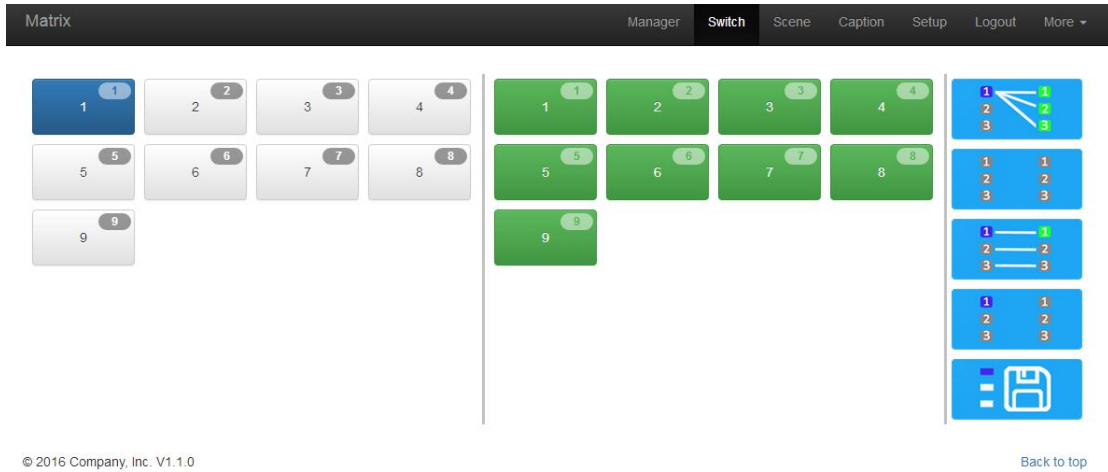
The left side of the long string is input area: Mini99 will have 9 buttons, Mini1818 has 18 buttons, Mini3636 will have 36 buttons. The right side is output area, the buttons are the same with input area. And there're 5 buttons: The 1st for 1 to all, 2nd for 1 off to all, 3rd for 1 to 1, 4th for all off, the last one is for scene save and recall. (Change names can be done in Caption interface)

If need to switch 1 input to 1 output: First click the input number, then click the output number

If need to switch 1 input to many outputs: First click input number, then press all the needed output number

If need to switch 1 input to all outputs, first click input number, then click the 1st button at the right side

If need to switch off the input, first click the input number, then click the 2nd button at the right side

If need to switch 1 to 1, 2 to 2...., then just click the 3rd button at right side directly

If want to switch off all the input and output, then just click the 4th button at the right side directly

7.2.3 Scene

Scene Interface:
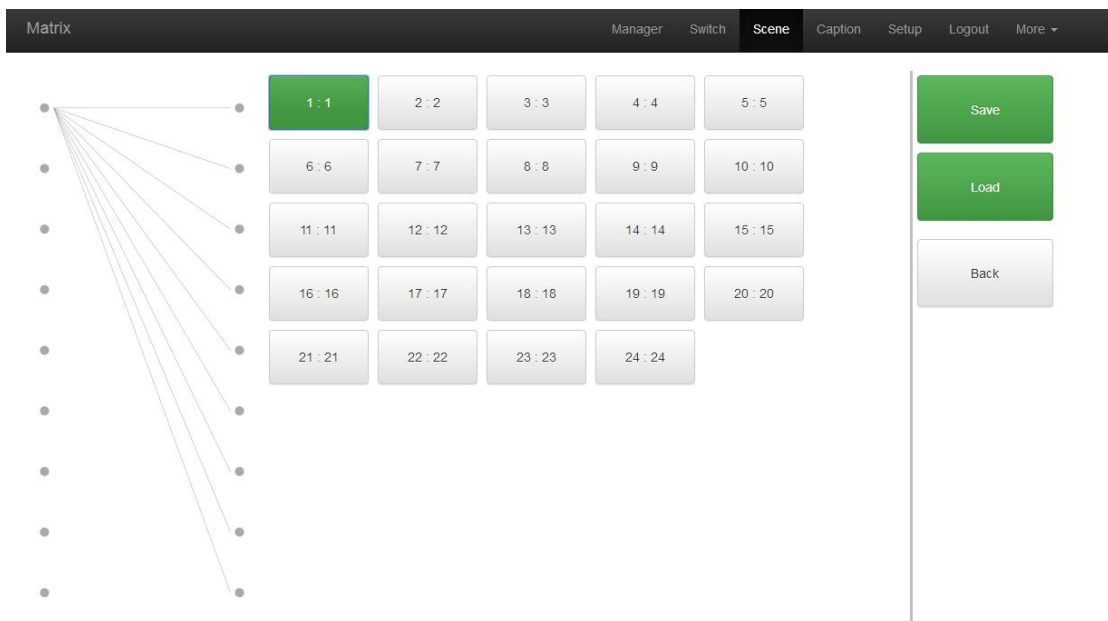
There're 24 scenes in the middle, can view the current switching status from left side, the right

side are the Save, Load, Back buttons. (All scenes can be named in Caption interface)

If want to save the current switching status as the scene: Select the wanted scenes number(1~24), then click Save to save.

If want to recall the saved scenes: Select the wanted scene number(1~24), then click Load button to recall

Click Back button to return back the Switch interface.

7.2.4 Caption:

For changing the input, output and scenes' name

There are 3 parts on the left side, the first one is for Scene, middle one is for Input and the last one is for the Output. And there are 4 buttons on the right side, Clear for clearing all the names, Default for returning back to default status, Load is for syncing, click Load can recall all the saved names on the matrix, Save is for saving the current name changes to the matrix

7.2.5 Manager

Centralization Manage interface:

Click Manager can realize many matrices centralized controlling

At the same local area network, it can control one to many matrices with same segment but different IP address, the most can control 254 units matrices. Such as the following IP are 192.168.1.81 are 192.168.1.88 two different matrices，and 192.168.1.81 is 40x40 matrix, and 192.168.1.88 is 10x10 matrix. Click research to find and control all the matrices. Also support rename the matrices' name, such as to change 192.168.1.81 as 1, then click 192.168.1.81 and enter number 1 and click rename. And rename 192.168.1.88 as 2. Check as following interface:

Also can click IP address to control at this interface:

7.2.6 Setup

Set up interface:

System Reboot: for modifying the matrix configuration(IP address, Login password)

Ethernet: for changing IP address accordingly

Administrator: For changing the Login user name and password

Multifunction Buttons: For controlling the surrounding equipment

Multifunction buttons set up, total we have 16 multifunction buttons at present. We can rename the buttons, Type the HEX code for each button, and baud rate select. Then click "Save".

7.2.7 More:

Upgrading: Click Upgrade can realize new software upgrading
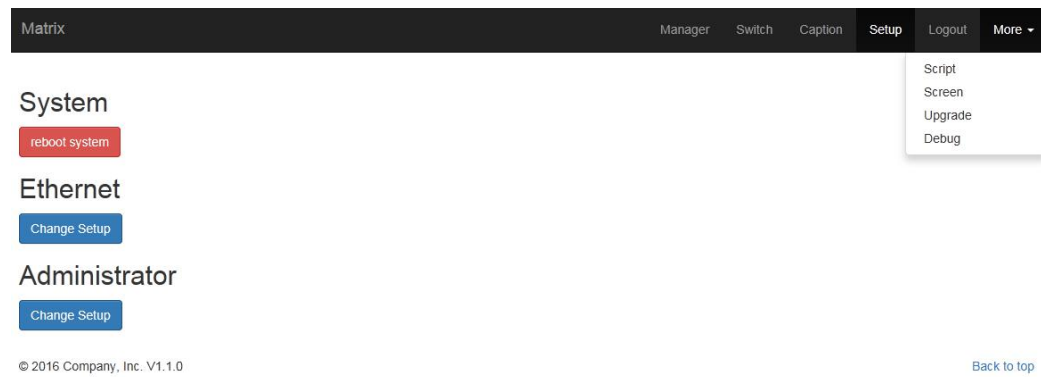
7.3 APP Control

It also can support IOS and Android APP control, users only need to well connected the matrix with the WIFI router or local network. Download the APP from the application store. The steps and interfaces show as below:

Step 1: Make sure the matrix well connected with the router or local network, and open the APP:

Step 2: Enter the IP address of the matrix:
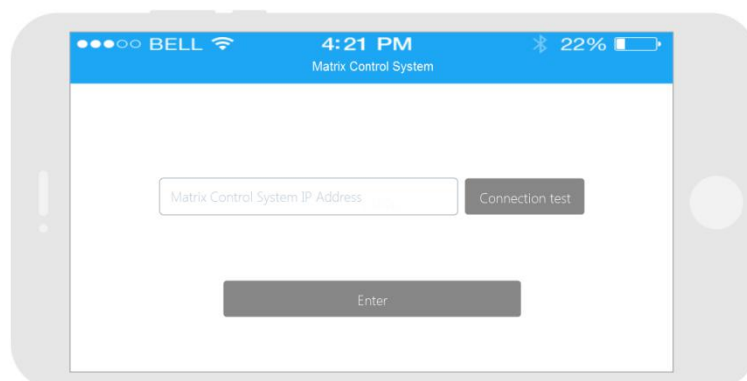
Step 3: After log in successfully, users can switch, change the inputs and outputs name directly.

7.4 Central 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

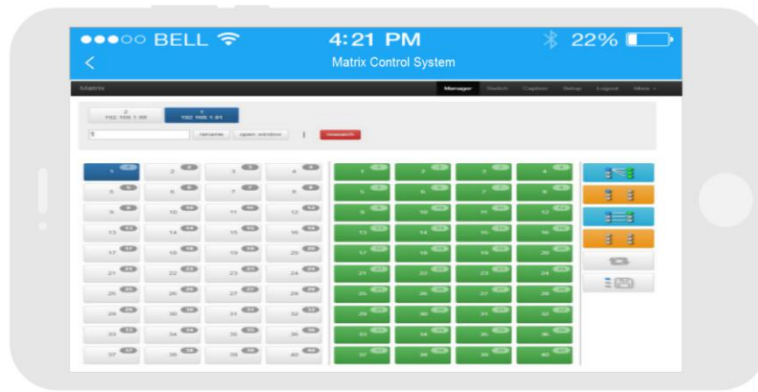| Commands	Explanation	Function description
YAll.	Y=1,2,3,4......	Switch Input Y to all the outputs Eg. "**1ALL.**" means switch input 1 to all outputs
All1.	One to one	Switch all the channels to be one to one. Eg.1->1， 2->2，3->3……
YXZ.	Y=1,2,3,4...... Z=1,2,3,4......	Switch Input Y to Output Z Eg. "**1X2.**"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

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 the DVI cable between the device and display are short than 7 meters
- ➢ Reconnect the DVI cable and restart the system
- ➢ Make sure the signal sources are on
- ➢ Check the cables between the devices and displays are connected correctly.
- ➢ Dial the switcher 7 to 1, then dial the switcher1,2 and choose the corresponding inputs.
- ➢ Make sure the resolution less than WUXGA(1920*1200)/ 60HZ
- ➢ 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

Attachment A:
Input and output cards for MINI-MANAGER-900/1800/3600
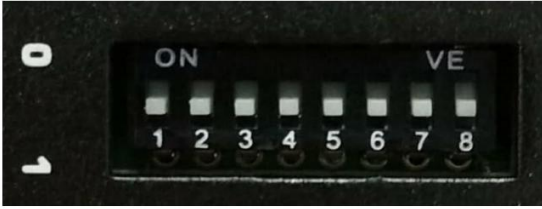
Input Cards		
1080P Seamless Switching Cards		
MAV		Support HDMI/DVI/VGA/YPBPR/CVBS+LR input Support HDCP, 1080P60 Seamless switching
HDMI		Support HDMI input HDCP, 1080P60 with seamless switching Seamless switching
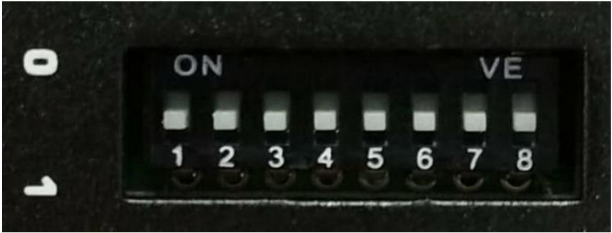
SDI		Supports SD/HD/3G-SDI input and one loop out Supports　1080p60 Seamless switching
HDBaseT		Supports HDBaseT input Distance up to 70/100m at 1080P60 with Cat6 Seamless switching

4K60 Seamless Switching Cards

4K60 HDMI2.0		Supports 4K60 HDMI2.0 input Supports HDCP2.2 Supports 3.5mm audio embedded Seamless switching
4K60 HDBaseT		Support HDBaseT input with one HDMI loop out Distance up to 40/70m at 4K60 Work with　4K60 40M TX
4K60 Fiber		Supports LC connector SM fiber input Distance up to 2km Work with the 4K60 Fiber Optic Tx

4K30 Pass-through Cards

4K30 HDMI		Support 4K30Hz , HDCP1.4 EDID read function Embedded equilibrium
4K30 HDBaseT		HDBaseT input and HDMI loop out POC, RS232/IR Distance can up to 70m/100m

Output Cards

1080P Seamless Switching Cards

MAV		Support HDMI/DVI/VGA/YPBPR/CVBS+LR input Support HDCP, 1080P60 Seamless switching
HDMI		Support HDMI input HDCP, 1080P60 with seamless switching Seamless switching
HDMI-TV		Support HDMI output, Seamless switching Support resolution adjustment Supports TV Wall function
SDI		Supports 2 SD/HD/3G-SDI outputs Supports 1080P60 Seamless switching
HDBaseT		Supports HDBaseT output Distance up to 70/100m at 1080P60 with Cat6 Seamless switching

4K60 Seamless switching Cards

4K60 HDMI2.0		Support 4K30 HDMI input Support HDCP1.4 Support EDID handshaking
4K60 HDBaseT		Supports HDBaseT input with 1 HDMI loop out Distance up to 40m at 4K30 POC(Power over Cable) function
4K60 Fiber		Supports LC connector SM fiber output Distance up to 2km Work with the 4K60 Fiber Optic Rx
4K30 Pass-through Cards		
4K30 HDMI		Support 4K30 HDMI output Support HDCP1.4
4K30 HDBaseT		Supports HDBaseT output Distance up to 35/70m at 4K30 POC(Power over Cable) function

Note: All the above cards can work with MINI-MANAGER-900/1800/3600, BUT we suggest to use only 1080P, 4K60 or 4K30 pass-through cards on one chassis instead of mixing use 1080P and 4K60 or 4K30 cards together.

Attachment B:
DIP Switches Operation Instruction
4K60 seamless switching cards:

4K60 HDMI2.0 Input Card DIP Switch													
Customize Resolution					**3.5mm Audio**		**Null**				**IR Function**		
DIP 1	DIP 2	DIP 3	DIP 4	Description	DIP 5	Description	DIP 6	Description	DIP 7	Description	DIP 8	Description	
0	0	0	0	1080P@60Hz	0	Using External audio	0	Null	0	Null	0	IR off	
0	0	0	1	1080P@50Hz	1	Using HDMI audio	1		1		1	IR on	
0	0	1	0	3840*2160@50Hz									
0	0	1	1	720P@60Hz									
0	1	0	1	1366*768@60Hz									
0	1	1	0	1024*768@60Hz									
0	1	1	1	3840*2160@30Hz									
0	1	0	0										
1	0	0	0	3840*2160@24Hz									
1	0	0	1	480P@60Hz									
1	0	1	0	720P@50Hz									
1	0	1	1	576P@50Hz									
1	1	0	0	3840*2160@60Hz									
1	1	1	0	4096*2160@60Hz									
1	1	1	1	4096*2160@50Hz									

4K60 HDMI2.0 Output Card DIP Switch

DIP 1	DIP 2	DIP 3	DIP 4	Description	DIP 5	DIP 6	Description	DIP 7	Description	DIP 8	Description
Customize Resolution					Customize Color Space			HDCP2.2		IR Function		

Customize Resolution					Customize Color Space			HDCP2.2		IR Function		
DIP 1	DIP 2	DIP 3	DIP 4	Description	DIP 5	DIP 6	Description	DIP 7	Description	DIP 8	Description
0	0	0	0	1080P@60Hz	1	1	RGB	0	HDCP On	0	IR off
0	0	0	1	1080P@50Hz	1	0	YUV422	1	HDCP Off	1	IR on
0	0	1	0	3840*2160@50Hz	0	0	YUV420				
0	0	1	1	720P@60Hz	0	1	YUV444				
0	1	0	1	1366*768@60Hz							
0	1	1	0	1024*768@60Hz							
0	1	1	1	3840*2160@30Hz							
1	1	1	1	3840*2160@30Hz							
0	1	0	0	4096*2160@50							
1	0	0	0	4096*2160@30							
1	0	0	1	480P@60Hz							
1	0	1	0	720P@50Hz							
1	0	1	1	576P@50Hz							
1	1	0	1	1920*1200/60							
1	1	0	0	3840*2160@60Hz							
1	1	1	0	4096*2160@60Hz							

1080P seamless switching cards:

1080P Input Card DIP Switch

Customize Resolution			Input Source Select				Image or Audio Select			IR Function		
DIP 3	DIP 4	DIP 5	Description	DIP 7	DIP 1	DIP2	Description	DIP 6	Version	Description	DIP 8	Description
0	0	0	1024*768	1	0	0	CVBS Input	1	Version 1	Normal display	0	IR off
0	0	1	1360*768	1	0	1	YPBPR input	0	Version 1	Image mirror	1	IR on
0	1	0	1920*1200	1	1	0	VGA input	1	Version 2	HDMI audio input		
0	1	1	720P/60	1	1	1	DVI input	0	Version 2	3.5mm audio input		
1	0	0	Null	0			Signal Auto detect					
1	0	1	Null									
1	1	0	1080P/50									
1	1	1	1080P/60									

1080P Output Card DIP Switch

D2	D3	D4	D5	D6	Description	D1	Description	D7	Description	D8	Description
Resolution Set Up						Color Space		Image		IR	
0	0	0	0	0	1024*768@60	0	RGB	0	Image mirror	0	IR ON
0	0	0	0	1	800*600@60	1	YUV	1	Normal display	1	IR OFF
0	0	0	1	0	1280*800@60						
0	0	0	1	1	1280*1024@60						
0	0	1	0	0	1360*768@60						
0	0	1	0	1	1366*768@60						
0	0	1	1	0	1400*1050@60						
0	0	1	1	1	1440*900@60						
0	1	0	0	0	1680*1050@60						
0	1	0	0	1	1600*1200@60						
0	1	0	1	0	1920*1200@60						
0	1	0	1	1	1600*1200@60						
0	1	1	0	0	1680*1050@60						
0	1	1	0	1	1400*900@75						
0	1	1	1	0	640*480@75						
0	1	1	1	1	800*600@75						
1	0	0	0	0	480I@60						
1	0	0	0	1	576I@50						
1	0	0	1	0	480P@60						
1	0	0	1	1	576P@50						
1	0	1	0	0	1280*720@24						
1	0	1	0	1	1280*720@25						
1	0	1	1	0	1280*720@30						
1	0	1	1	1	1280*720@50						
1	1	0	0	0	1280*720@60						
1	1	0	0	1	1080I@50						
1	1	0	1	0	1080I@60						
1	1	0	1	1	1080P@24						
1	1	1	0	0	1080P@25						
1	1	1	0	1	1080P@30						
1	1	1	1	0	1080P@50						
1	1	1	1	1	1080P@60						

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