18Gbps 8x8 4K60 HDMI Seamless Matrix Switcher With Videowall And Multiview

User Manual

VER 2.0 (E25)

Contents

1. OVERVIEW

AMPD-0808K6G is a multi-purpose 4K60 HDMI matrix switcher, which can distribute any 8 HDMI inputs to any 8 HDMI output displays with resolution up to 4K@60Hz 4:4:4 at an 18Gbps video bandwidth. It integrates the functions of seamless switching, video wall and multiview. Speaking of audio functionality, the matrix switch supports audio de-embedding, enabling built in audio extract from HDMI output. In addition, there are 16 presets and these presets can be easily accessed and recalled by user. It can be controlled by front panel buttons, IR remote, TCP/IP WebUI and RS232 command(3rd parties central control).

FEATURES

8x HDMI2.0 inputs and 8x HDMI2.0 outputs

Video resolution up to 4K@60Hz 4:4:4

Compliant HDCP 2.2 with EDID management

Seamless switching between inputs

User-defined output resolution

Support LED and LCD videowall

User-defined videowall display layout

User-defined multiview display layout

Inputs and outputs status monitoring

Audio de-embedding with 8x 3P-3.5mm audio phoenix outputs

3 operational modes: Matrix switcher+Videowall controller+Multiviewer

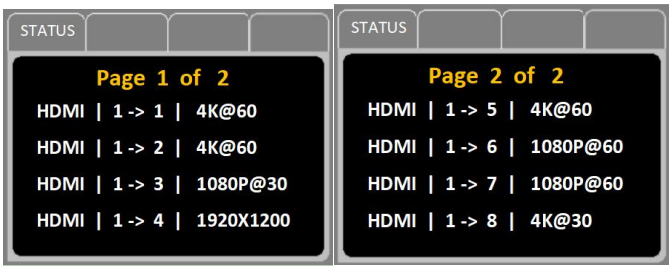
2. PACKAGE CONTENTS

① 1 x 8x8 4K60 HDMI Seamless Matrix Switcher(AMPD-0808K6G Series)
② 1 x 12V/5A Power Adapter
③ 1 x IR Remote

3. HARDWARE

4.1 FRONT PANEL OPERATION

Notes: After power on, the LCD screen shows LOGO status. Press any push button to enter the main menu to operate it. If no operation within 15 seconds, it will back to LOGO status .
The LCD screen menu information is shown below:



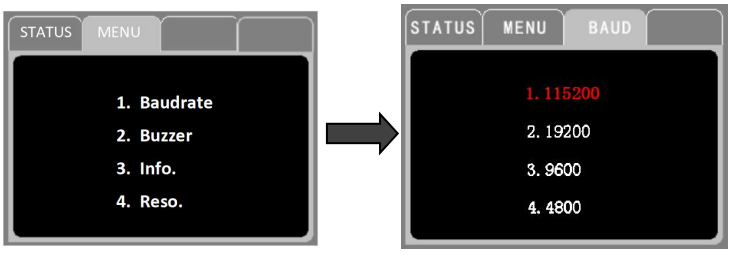
The left column indicates the current audio input format (HDMI supports embedding audio) and the middle part indicates the input and output corresponding status. The right column indicates the current resolution of the corresponding output port.

- Press **IN(1/2/3/4/5/6/7/8) + OUT(1/2/3/4/5/6/7/8) + Enter** to switch the matrix routing.

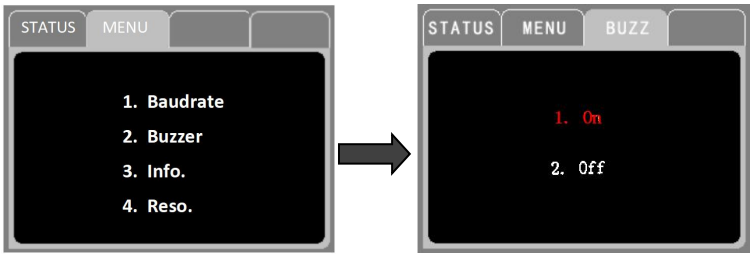
Press and hold the MENU button to enter or unlock the matrix. The MENU button indicator will light up when the matrix is locked.

- Press **MENU + 1 + 1/2/3/4 + Enter** to set baud rate.

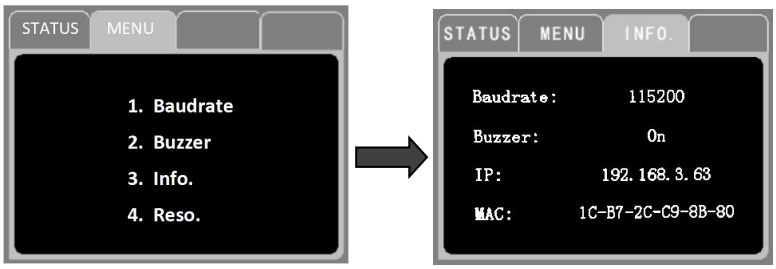
1/2/3/4 correspond to 115200/19200/9600/4800.



- Press **MENU + 2 + 1/2 + Enter** to turn the buzzer sound on or off. **1** is turn on and **2** is turn off.



- Press **MENU + 3** to view the device information of baud rate, buzzer, IP address etc..

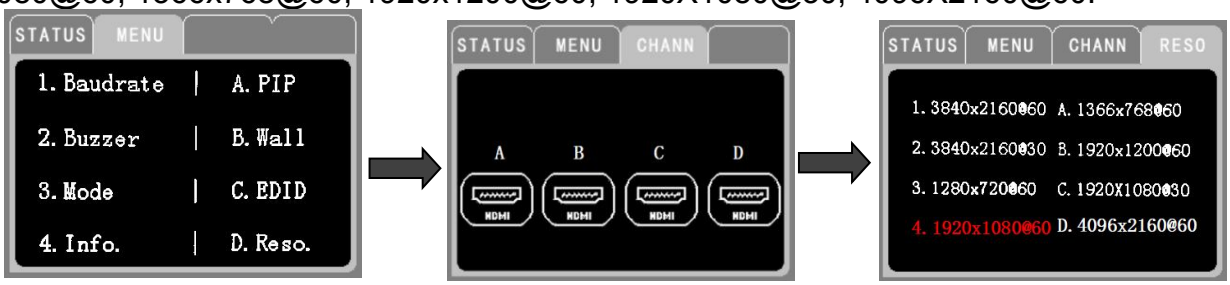


- Press **MENU + 4 + 1/2/3/4/5/6/7/8**(output channel options) **+ 1/2/3/4/5/6/7/8**(output resolution options) **+ Enter** to select current HDMI output resolution.

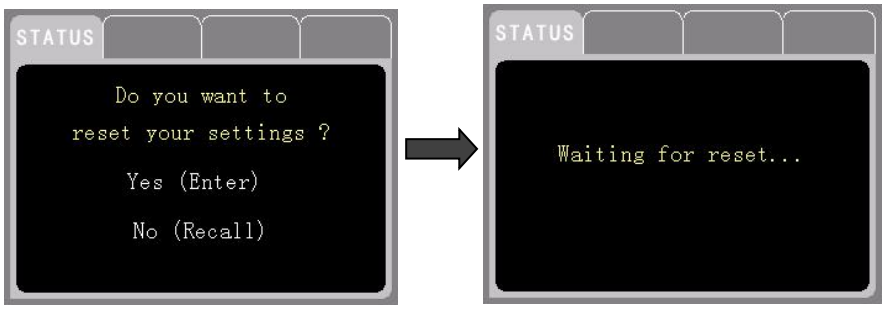
8 options from 3840x2160@60, 3840x2160@30, 1280x720@60, 1920x1080@60, 1366x768@60, 1920x1200@60, 1920X1080@30, 4096X2160@60.

- Press **MENU + D + (1/2/3/4/A/B/C/D) + Enter** to select HDMI output resolution.

1/2/3/4/A/B/C/D correspond to 8 resolutions 3840x2160@60, 3840x2160@30, 1280x720@60, 1920x1080@60, 1366x768@60, 1920x1200@60, 1920X1080@30, 4096X2160@60.

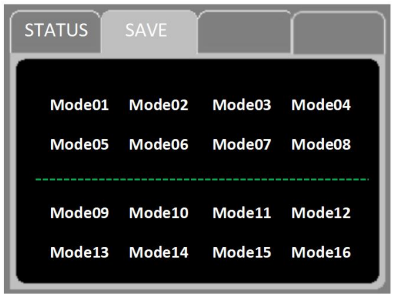


- Press and hold **ENTER** button for 5 seconds to select whether to restore it to factory settings.



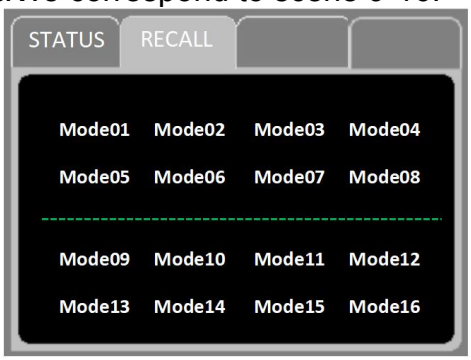
- Press **SAVE + 1/2/3/4/5/6/7/8 + Enter** to save current display scene. It supports 16 modes.

First row **1/2/3/4/5/6/7/8** correspond to scenes 1-8. Second row **1/2/3/4/5/6/7/8** to scenes 9-16.



- Press **RECALL+1/2/3/4/5/6/7/8 +Enter** to recall display scene.

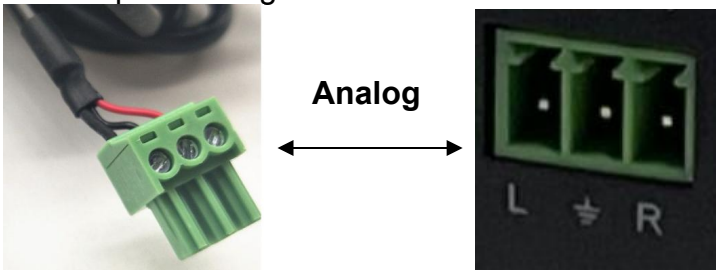
First row of numbers **1/2/3/4/5/6/7/8** correspond to scene 1-8.
Second row of numbers **1/2/3/4/5/6/7/8** correspond to scene 9-16.



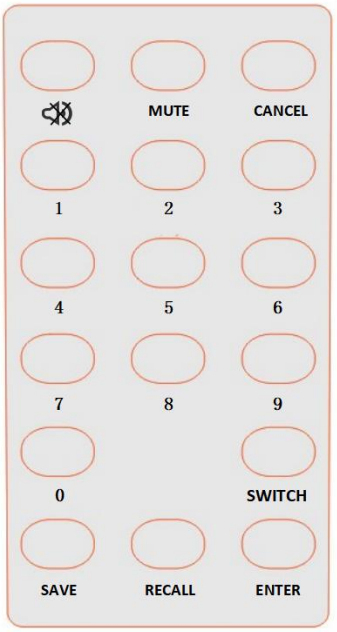
4.2 REAR PANEL OPERATION

No.	Menu	Function
1	Input 1- Input 8	HDMI input interface 1/2/3/4/5/6/7/8, resolution up to 4K60hz.
2	Output 1- Output 8	HDMI output interface 1/2/3/4/5/6/7/8, resolution up to 4K60hz.
3	Output L≒R	8 audio output interfaces, 3P-3.5mm audio Phoenix
4	RS232	Third party control via this RS232 interface.
5	RJ45	WebUI control via this RJ45 interface.
6	Power	Power on/off the device. AC110-240V 50/60Hz

Notes: The analogue audio output ports are tied to corresponding HDMI ports. The user can extract the de-embedding audio from HDMI output. Analogue audio OUT connection:



4. IR REMOTE CONTROL



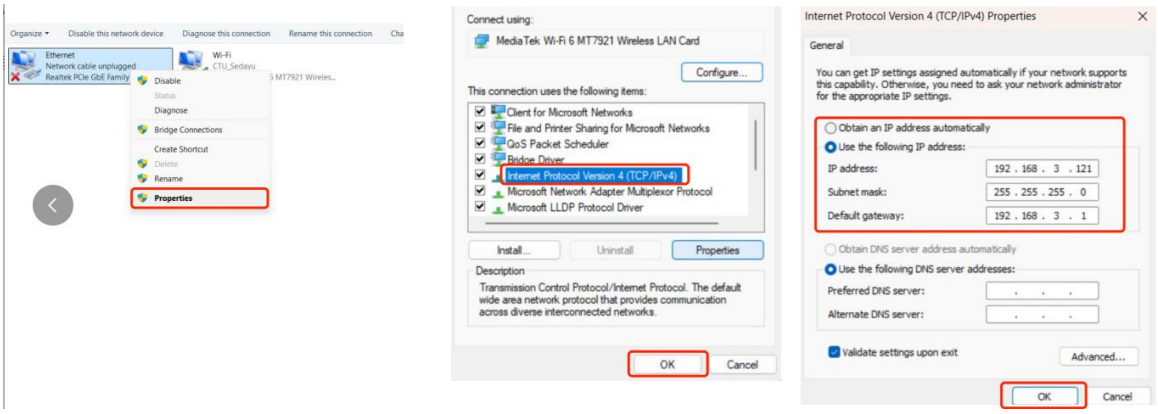
Button	Function
1/2/3/4/5/6/7/8/9/0	Select input or output source.
SWITCH	Input and output switching button Switch input 4 to output 7: 4+SWITCH+7+ENTER
SAVE	Save preset scene. Save scene 1: SAVE+1+RNTER
RECALL	Recall preset scene. Recall scene 1: Recall+1+RNTER
ENTER	Confirm button
CANCEL	Operation cancellation button. If pressed wrongly, the user can cancel the current operation by pressing this button.
MUTE and	These 2 buttons are reserved for future use.

5. WEB GUI GUIDE

5.1 Connection

1. Connect the matrix with control computer via the **RJ45** port ethernet communication.
2. Get the matrix IP address via the front panel buttons and the LCD screen(press button **"MENU"** and then number button **'4'** to check the current IP address. (The factory default IP is 192.168.3.XXX (the last digit is not fixed)

3. Manually set the computer IP address, which needs to be in the same network segment as the matrix.

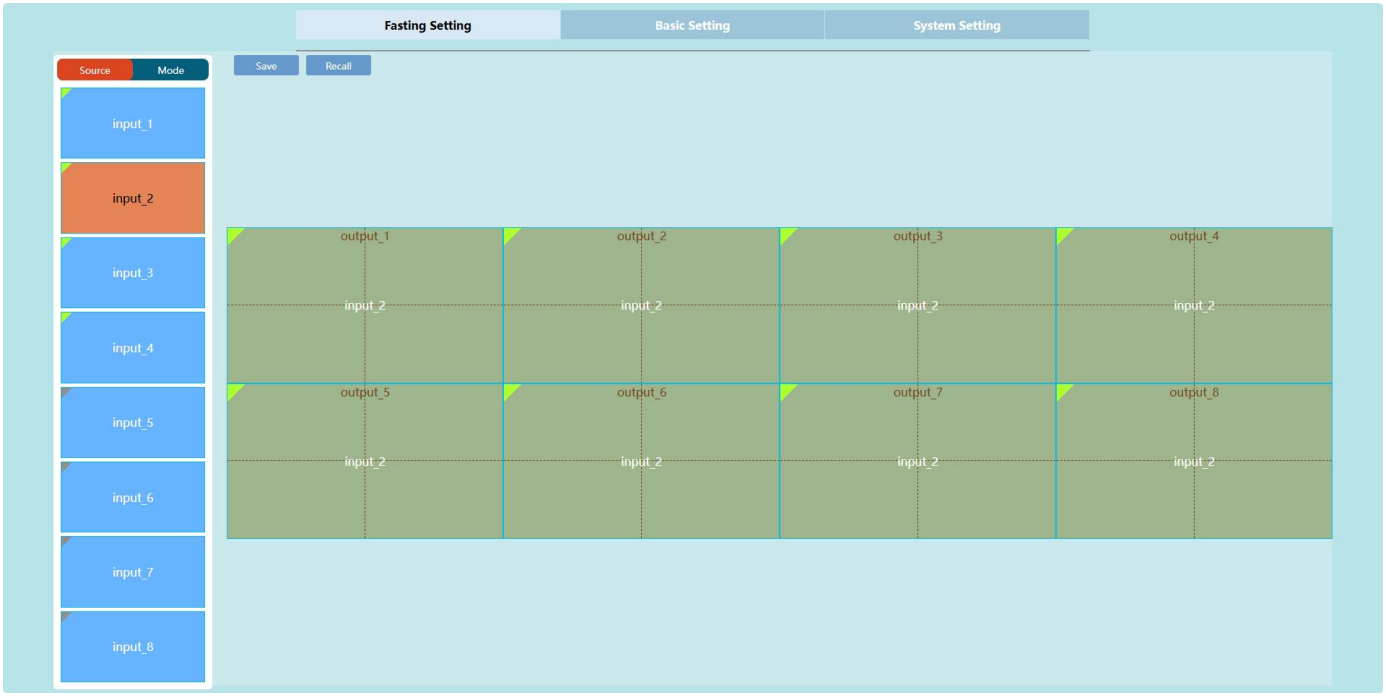


4. Input the IP address into your browser on the PC to enter Web GUI page.

5.2 Fast Setting(Matrix Switching/Mode Save/Mode Recall)

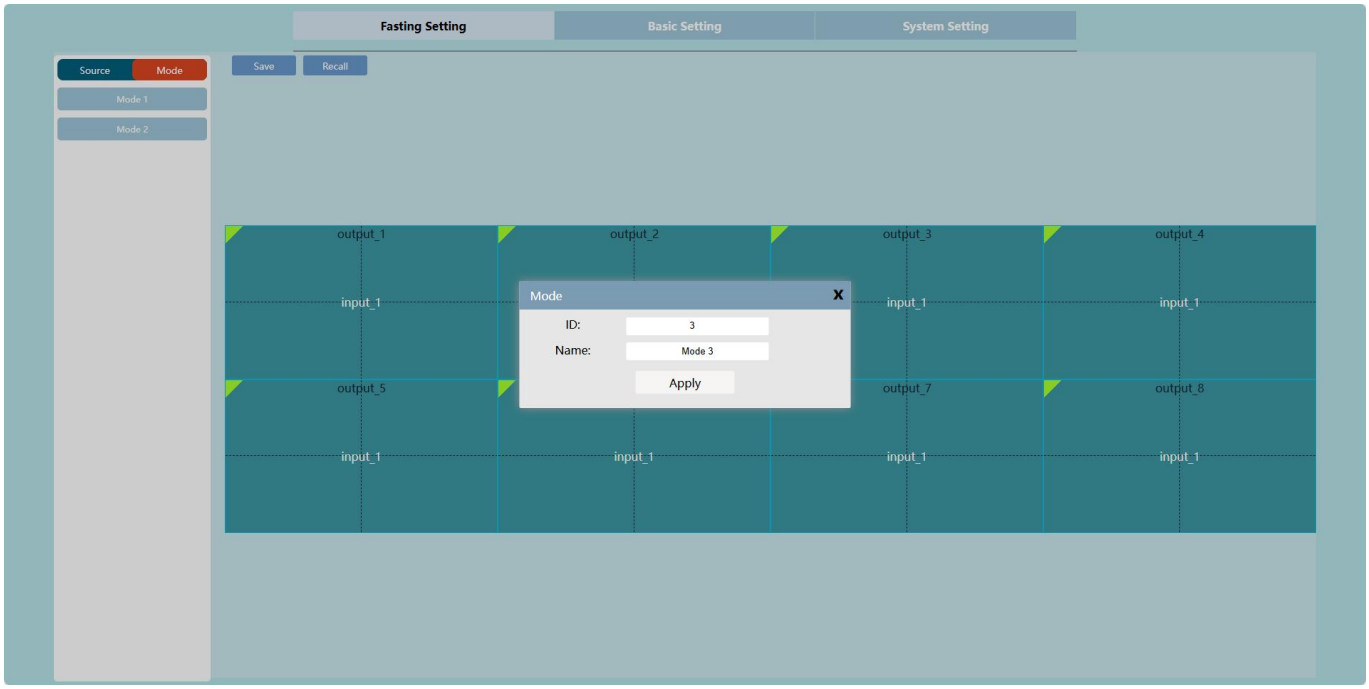
Matrix switching-The left side is the input signal list (if a valid input signal is detected, the upper left corner will light up the green mark) . First select the input signal, then drag it to one or more outputs in the right area, finally release the mouse to complete the switching.

For example, switch input 2 to all outputs as shown below.



Mode Save: Click '**Save' and 'Apply'** to save current display mode. And the user can change the mode name. There are 16 modes in total.

Mode Recall: Select the mode you want to recall, then click **'Recall'.**

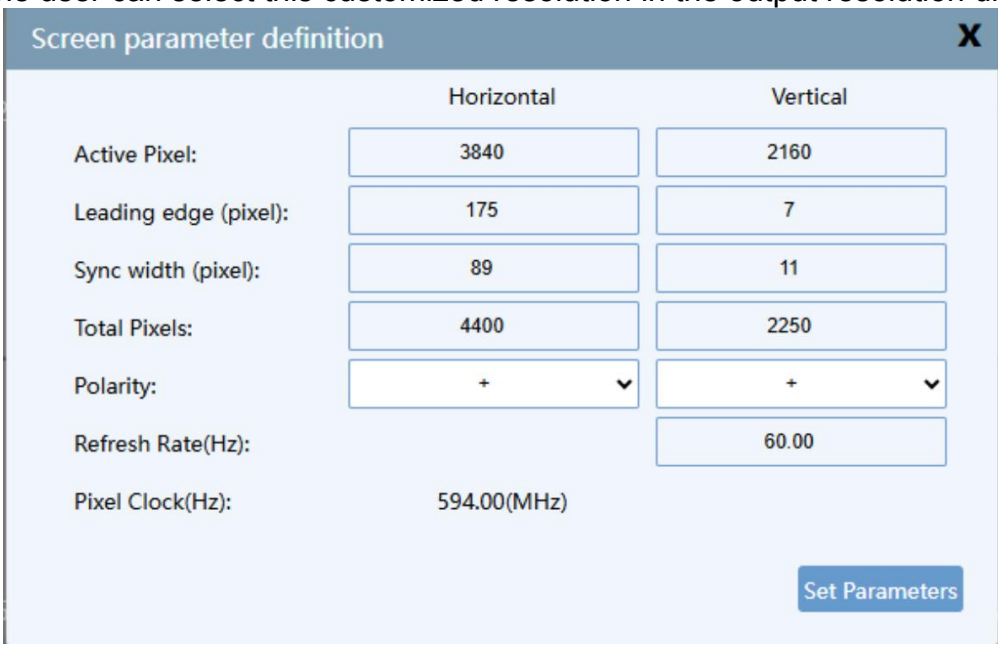


5.3 Basic Setting(Resolution and EDID)

Resolutions- Select the output resolution from the resolution drop-down menu, up to 384.
EDID- Input EDID can be modified by selecting the resolutions from the drop-down menu.
Rename: Input and output channel names can be modified and saved in this interface.
Patterns: Select input and output test images from the drop-down menu.
Status: If a valid input or output signal is detected, the dot will be in green.

Screen Parameter Definition(User-defined output resolution)

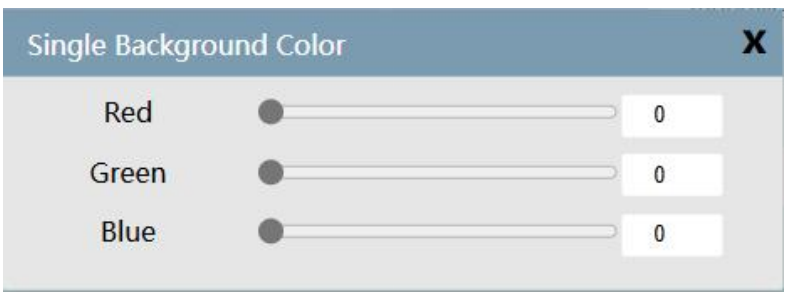
The user can custom each output resolution according to the actual need. Click '**Screen Parameter Definition**' and fill in the active pixels and other parameters will be calculated automatically by the software.Then the user can select this customized resolution in the output resolution drop-down box.



5.4 System Setting

Configuration: Set the IP address, gateway address and Mac address etc..
Videowall Setting: Click **'Videowalls settings'**, then set **output resolution**, videowall **row/column**, **color** format and **Matrix/Wall** type. After the setting, click **'Create'** and then **'Determine'.**

Single background color: The user can set the background of the layer when there is no source input. Default background is black and the user can set any RGB combination colour value.

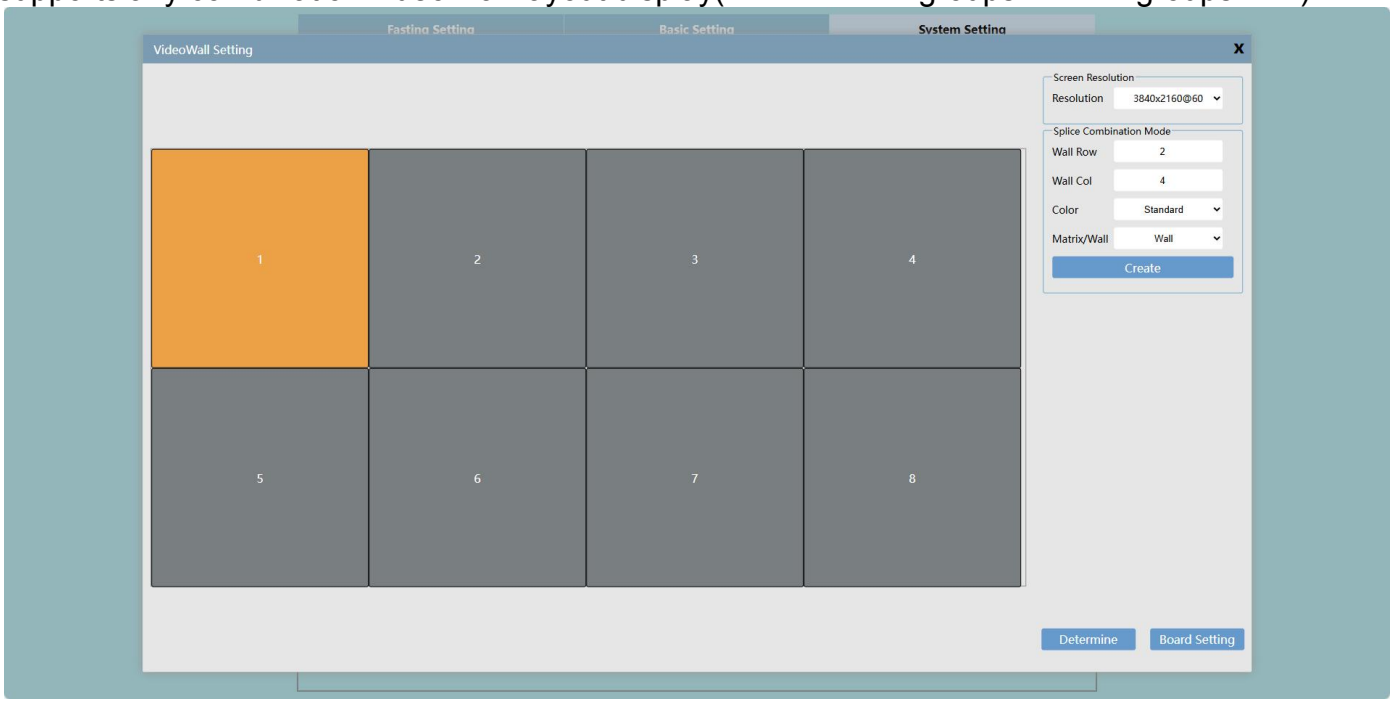


Language: Select English or Chinese.

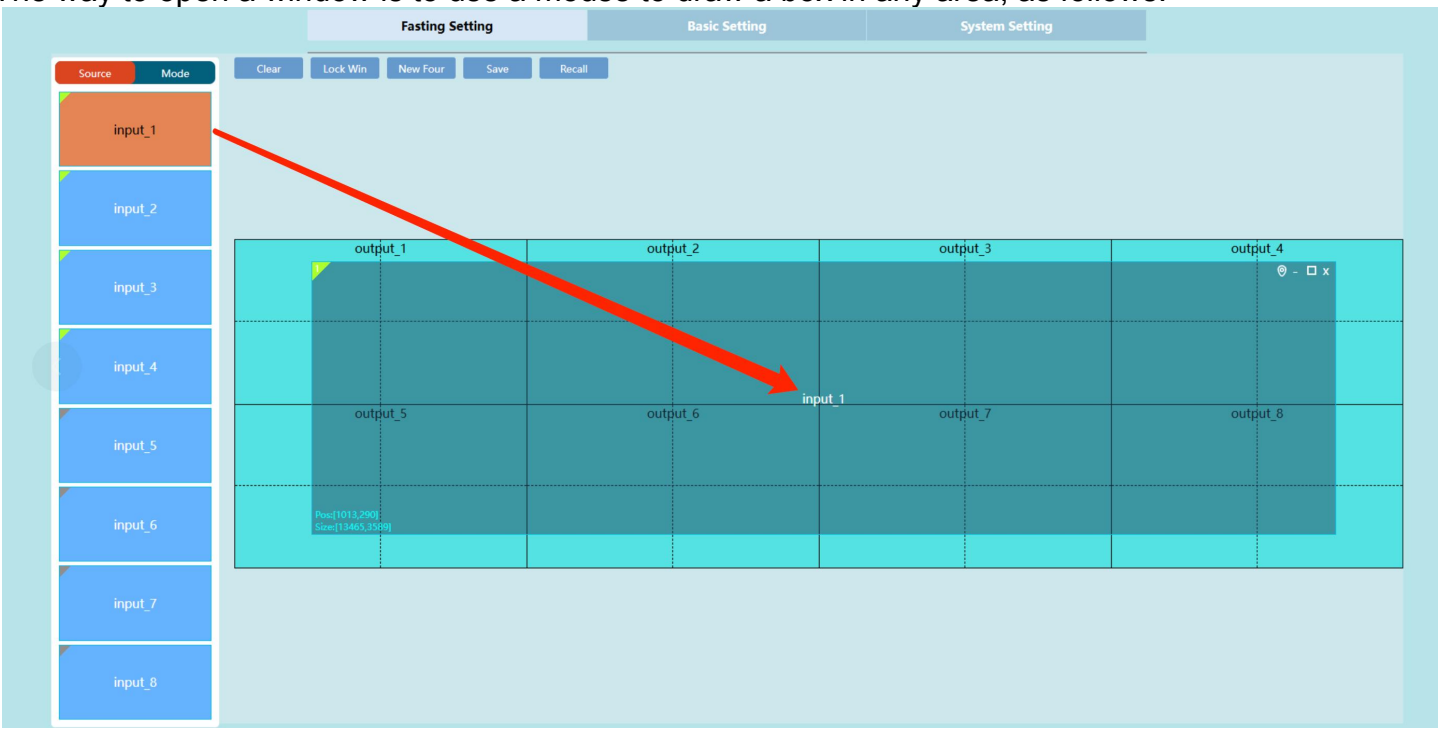
System information: Show the device system information of MCU verion and Webvision.

5.5 LED/LCD Videowall Function Operation

Click **‘System Setting’**-**’Videowall Setting**’ and select the **‘Matrix/Wall’** type as **‘Wall’.** Fill in the **‘Row’** & **‘Column’.** Click **‘Create’** and then **‘Determine’.** Then the user can use the video wall function.
It supports any combination video wall layout display(2X4 / 4X2 / 2 groups 2X2 / 2 groups 4X1)

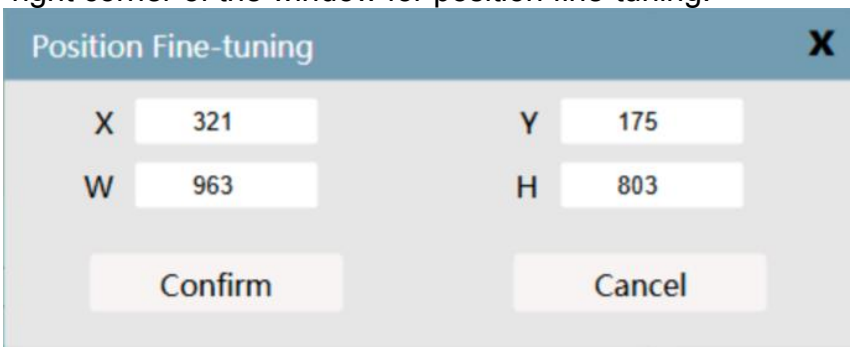


The way to open a window is to use a mouse to draw a box in any area, as follows.



Clear: Switch off all input signals
Lock Win: Lock the opened window and open another PIP window on this window.
New Four: Quickly start a single output port 4-screen display

Click in the upper right corner of the window to maximize the window.
Click in the upper right corner of the window to close the window.
Click in the upper right corner of the window for position fine-tuning.



Advanced Videowall Functions(For Picture in picture videowall requirement)

How to set a 2 layer windows 2X2 videowall

Step 1: Click **'System Setting'-'Videowall Setting**' and select the **'Matrix/Wall'** type as **'Wall'.** Fill in the **'Row'** in 2 **and 'Column'** in 2. Click **'Create'** and then **'Determine'.**

Step 2: Click **'System Setting'- 'Videowall Setting**'-**'Board Setting' to set the display** Board ID. Set the 1st display ID as 1, 2nd display ID as 3, 3rd display ID as 5, 4th display ID as 7.

Step 3: Connect the machine output 1/3/5/7 to the video wall display 1/3/5/7.

Then the user can use it as a 8 in 4 out 2 layer windows videowall controller.

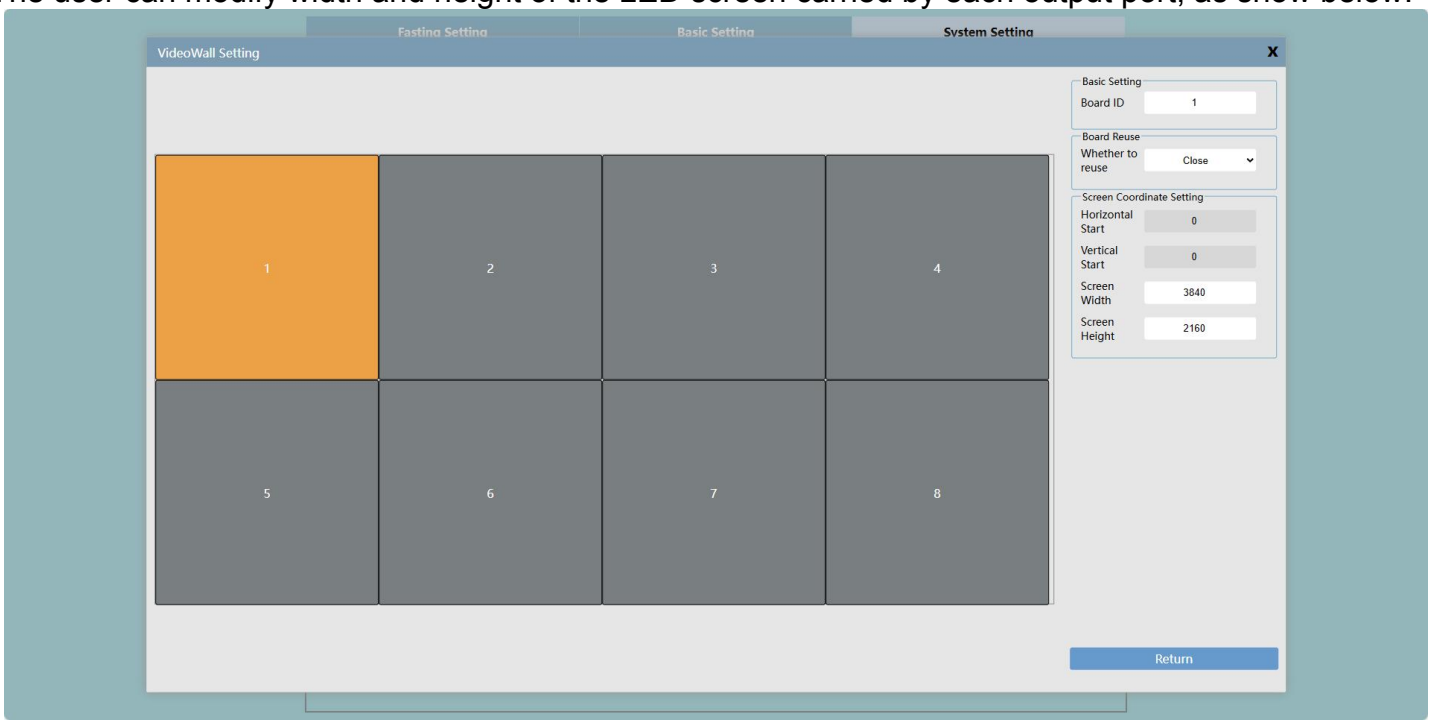
5.6 Multi-view Function Operation

Click **'System Setting'-'Videowall Setting**' and select the **'Matrix/Wall'** type as **'Wall'.** Click **'Board Setting' to set the multiview display configuration.**

Board ID: The board ID refers to the output ID.

Whether to Reuse: Whether to copy output 1 multiview layout to other outs.

The user can modify width and height of the LED screen carried by each output port, as show below.



6. RS232 CONTROL COMMAND

Baud rate: 115200 preset Data bit: 8bits Stop bit: 1bit Check Digit: None

Switching Protocols			
Single Channel Switching			
PC to Matrix	Function	Matrix to PC	Example
[X1]V[Y1].	Single input [X1] to output [Y1]	V:[X1]->[Y1]!	1V1.
Multiple Channels Switching			
PC to Matrix	Function	Matrix to PC	Example
[X1]V[Y1],[Y2].	Input [X1] to [Y1],[Y2]	V:[X1]->[Y1],[Y2] !	1V1,2,3.
[X1]All.	Input [X1] to All	[X1]A/V TO All!	1All.
[X1]VAll.	Input [X1] to All	[X1]A/V TO All!	1VAll.
All#.	All inputs to corresponding outputs	All A/V Through!	All#.
Close Single Output			
PC to Matrix	Function	Matrix to PC	Example
0V[Y1].	Close output [Y1]	V:OFF->[Y1]!	0V1.
Close Multiple Outputs			
PC to Matrix	Function	Matrix to PC	Example
[Y1], [Y2]V$.	Close outputs [Y1] and [Y2]	V:OFF->[X1],[X2]!	1,2,3V$.
All$.	Close all outputs	All A/V Closed!	All$.
Scene Protocols			
PC to Matrix	Function	Matrix to PC	Example
Save[N].	Save the Scene N	Save To F[N]!	Save1.
Recall[N].	Recall the Scene N	Recall From F[N]!	Recall1.
Clear[N].	Delete the Scene N	Clear F[N]!	Clear1.

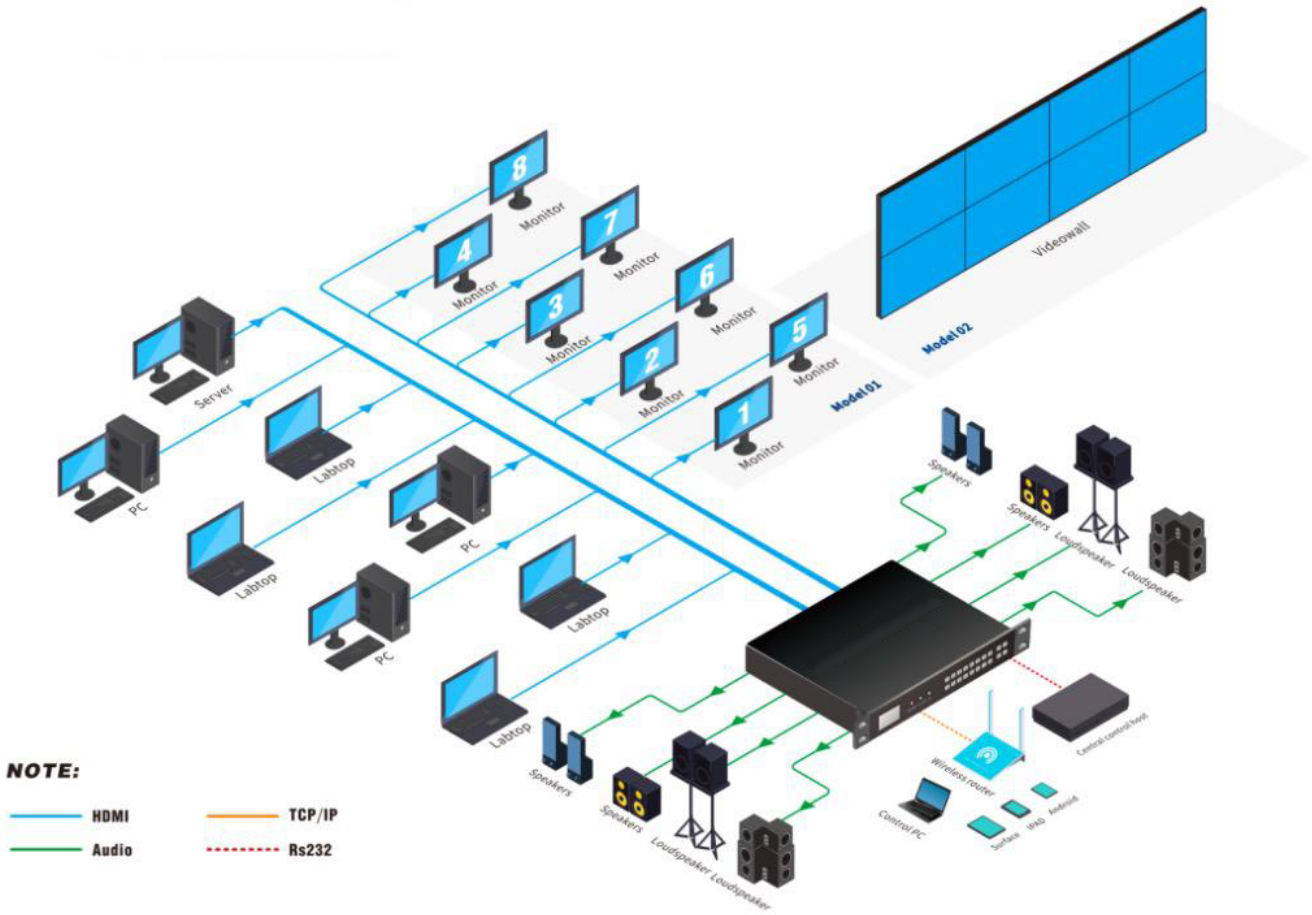
Network Interface Default Parameters	
Network port number: 5000	The network port number of the PC/central control device: 5100
Matrix Network IP: 192.168.3.xx	Network IP of the PC/central control device: 192.168.3.yy
Matrix Network Gateway Number: 192.168.3.1	The subnet mask of the matrix network: 255.255.255.0
Matrix network hardware addresses: randomly generated standard MAC addresses.	

Query Protocols			
PC to Matrix	Function	Matrix to PC	Example
*Version;	Query matrix version	Version:[X5]	*Version;
*Type;	Query matrix model	Type:[X5]	*Type;
	Query matrix network mode	DHCP:Use/NO Use!	
	Query matrix network port number	MPORT:[X5]!	

*MIP;	Query PC network port number	CPORT:[X5]!	*MIP;
	Query matrix IP	MIP:[X5]. [X6]. [X7]. [X8]!	
	Query network gateway	GATE:[X5]. [X6]. [X7]. [X8]!	
	Query network subnet mask	SUB:[X5]. [X6]. [X7]. [X8]!	
	Query the hardware address of the network	MAC:[X5]-[X6]-[X7]-[X8]-[X9]-[X10]!	
*Bell;	Enquiry Buzzer	Bell:On/Off!	*Bell;
*BR;	Query Baud Rate	Baudrate:115200!	*BR;
*ConnectTest;	Query Serial Port Connection	Connect OK!	*ConnectTest;

System Protocol			
/#Reset;	Restore factory settings	System Reset!	/#Reset;

7. SYSTEM DIAGRAM



8. SPECIFICATION

Product Name	**8x8 4K60 Seamless HDMI Matrix Switcher With Video Wall**
Model	AMPD-0808K6G
Video In	8 x HDMI TypeA Female
Video Out	8 x HDMI TypeA Female
Audio Output	8 x 3P-3.5mm Audio Phoenix Terminal
HDMI Version	HDMI2.0, HDCP2.2
Band Width	18Gbps
Input video resolution	800x600@60Hz,1024x768@60Hz, 1280x768@60Hz,1280x800@60Hz, 1280x1024@60Hz,1360x768@60Hz,1366x768@60Hz,1400x1050@60Hz1440x900@60Hz,1600x1200@60Hz,1680x1050@60Hz, 1920x1200@60Hz. 480p,576p,720p,1920x1080i,1920x1080p,3840x2160@30Hz/50Hz/60Hz, 4096x2160@24Hz/25Hz/30Hz/50Hz/60Hz.
Output video resolution	1920x1080@60Hz, 3840x2160@30Hz, 3840x2160@60Hz,1280x720@60Hz, 1920X1080@30Hz, 1360x768@60Hz, 1900x1200@60Hz, 4096x2160@60Hz Customized output resolution under 7680X2160@30Hz/5760X3240@30Hz/ 7680X1080@60Hz.
HDMI Amplitude	T.M.D.S +/- 0.4Vpp
Differential Impedance	100±15ohm
Control Method	Front panel buttons, IR remote, WebUI and RS232 command.
Baud rate and protocol	Baud rate: 115200, Data bits: 8, Stop bit: 1, no parity bit
Browser	IE10.0+,HTML5
Consumption/Voltage	100W(Max.) / 110-240V AC
Dimension(mm)	440(L)X260(W)X45(H), 1U
Weight	5Kg
Operating temperature	-20 to 50°C
Storage Temperature	-20 to 70°C
Humidity	10%-70%