

Matrix & Video wall controller

User
manual

CONTENTS

MOSAIC MATRIX SYSTEM OSD MENU DESCRIPTION.....	1
CONTROL PANEL INSTRUCTIONS	3
1. Schematic diagram of the front panel	3
2. Front panel function operation	3
INFRARED REMOTE CONTROL INSTRUCTIONS	4
ACTUAL FUNCTION SETTING	4
PC OPERATING INSTRUCTIONS.....	6
MATRIX CONTROL CODE	7

Model difference description:

Function:

The 4-4 is a 3 HDMI4K30HZ and 1 HDMI4K60HZ input and 1 DP4K60HZ input, 4 HDMI output.

The 4-16 is a multi-output splicing matrix, 2 HDMI4K60HZ, 2 4K30HZ input, and up to 16 HDMI output.

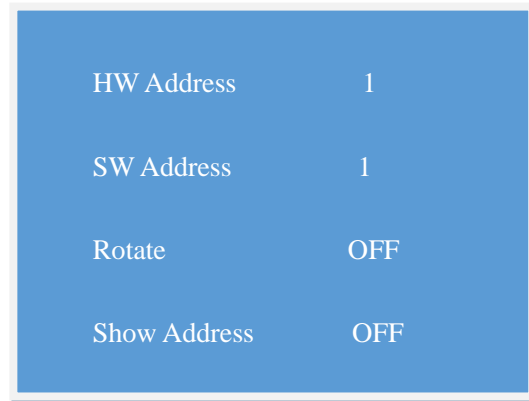
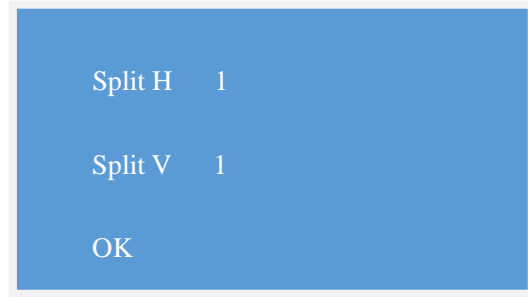
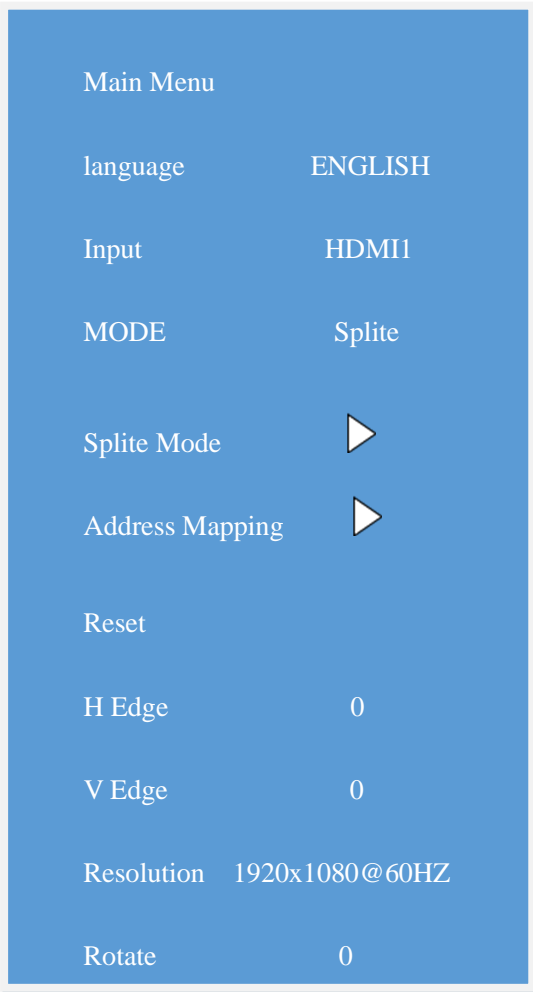
Operate:

4-4 matrix switching mode is two-key switching: input-output,

4-16 series matrix switching mode is conventional switching mode: Model-input-output-OK.

Mosaic matrix system OSD menu description

The system is divided into two modes: matrix and splicing:



Language: Set the menu language

Signal source: switch input signal source

Mode: switch splicing and matrix mode

Splicing mode: set NxM splicing

Address mapping: setting mapping, flipping and other functions.

Reset: restore factory settings Software

H Edge: set horizontal seam

V Edge: set vertical seam

Output mode: set output resolution

Rotate: set the overall image to flip 90 degrees, 270 degrees

Vertical: Number of vertical screens

level: horizontal screen number

HW address: the corresponding address of the output interface

SW address: mapping address

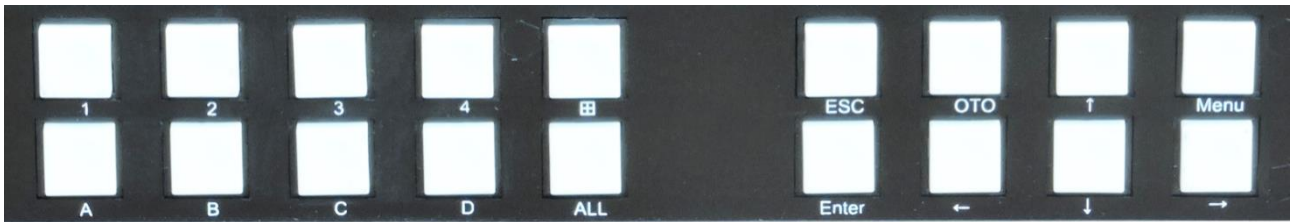
Rotate: set Rotate

Show Address: address display

Control panel instructions

1. Schematic diagram of the front panel

4-4:



4-16:



2. Front panel function operation

The following is the front panel operation mode:

2.2.1 Button description:

- ALL: switch to all;
- Menu: menu;
- ESC: exit/cancel;
- OTO: Matrix mode corresponds to switch, input 1, 2, 3, 4 switch to output 1, 2, 3, 4,
- Enter: Confirm/select;
- ↑ : Arrow key, up;
- ↓ : Arrow key, down;
- ←: Arrow key, to the left;
- : Arrow key, to the right;

2.2.2 Matrix mode signal switching

4-4:

Numbers 1, 2, 3, 4, and 田 correspond to input HDMI 1, 2, 3, 4, and four screens;

Numbers A, B, C, D, ALL correspond to output interfaces 1, 2, 3, 4, and all screens;

Example 1. If switching from the input 2 port to the output 3 interface, the switching method: 2→C, the cut is complete;

Example 2. If switching from input 2 port to all output interfaces, the switching method: 2→ALL, the cut is complete;

Example 3. If the input preview 4 screen is switched to the output 1 interface, the switching method: 田→1, the cut is complete;

Example 4. Press OTO, HDMI1-4 will switch to the screens 1-4 accordingly.

4-16:

Example 1. If switching from input 2 port to output 3 interface, the switching method:

Model→0→2→0→3→Enter, the cut is complete;

Example 2. If switching from input 2 port to all output interfaces, the switching method:

Model→0→2→All→Enter, the cut is complete;

Example 3. If the input preview 4 screen is switched to the output 1 interface, the switching method:

Model→All→0→1→Enter, the cut is complete;

Example 4. Press OTO, HDMI1-4 will switch to the first 1-4 screen.

2.2.3 Restore factory settings

To completely restore the machine to the factory settings, press the Menu button to enter the system operation, select the factory reset and press the Enter button to complete;

2.2.4 Language setting

The matrix switcher can be set in simplified Chinese, English, and traditional Chinese, enter the system settings through the MENU button, select the language setting, and switch the required language through the left and right selections; the specific operations are as follows:

MENU→language→right→Enter, save ends;

Infrared remote control instructions



The device can be set by infrared remote control, and the function is the same as that of the chassis key setting. This section lists the keys and brief introductions corresponding to the remote control and chassis keys, and will not repeat the description in detail;


Switch key: The signal switch key, which has the same function as the chassis Model button. After pressing the Switch button, press the number to set the input and output ports, and press the OK button to complete the switch;


Menu key: same as the case button Menu key;


Return : Same as the function of the Esc key of the chassis button;

OK : same as the case key Enter;

Number keys: same as the number keys of the chassis;

 : Same as the box All button, set to switch to all outputs;

 : Shortcut keys for switching between matrix mode and splicing mode;

 : Address display and close shortcut keys;

Note: The remote control method of the small chassis is the same as that of the 1U chassis.

Actual function setting

In splicing mode:

1. Set up NxM stitching:

Press the remote control or the case Menu button to open the menu, enter the splicing mode sub-menu, set NxM splicing, and select OK.

2. Set the mapping function:

Example: Map the image of the second screen to the image of the first screen

Press the remote control or the case Menu button to open the menu, enter the address mapping submenu, select physical address 2, and change the software address to 1.

3. Set the overall image flipping

Example: turn the overall image setting 90 degrees

Press the menu key of the remote control or chassis to open the menu, move up and down to select flip, and right-click to select Open flip 90 degrees.

4. Set single screen flip

Example: flip the image setting of the second screen

Press the menu key of the remote control or chassis to open the menu, enter the address mapping submenu, select physical address 2, select flip, and right-click to select Open flip.

5. Signal source switching (remote control)

Model: 4-4

Splicing mode:

Hdmi1: press the number key 1 to switch the audio synchronously;

Hdmi2: press the number key 2 to switch the audio synchronously;

Hdmi3: press the number key 3 to switch the audio synchronously;

Hdmi4: press the number key 4 to switch the audio synchronously;

DP: press the number key 5 to switch the audio synchronously;

Matrix mode:

The numbers 1, 2, 3, 4, and \boxplus correspond to input hdmi1, 2, 3, 4, and four screens;

Numbers5,6,7,8,0 correspond to output interfaces 1, 2, 3, 4, all screens;

Example 1. If the input 2 port is switched to the output 3 interface, the switching mode is: 2 → 8, and the switching is completed;

Example 2. If the input 2 port is switched to all output interfaces, the switching mode is: 2 → all, and the switching is completed;

Model: 4-16 series:

Splicing mode:

HDMI1: press UA1 to switch audio synchronization;

HDMI2: press UA2 to switch audio synchronization;

HDMI3: press UA3 to switch audio synchronization;

HDMI4: press UA4 to switch audio synchronization;

Matrix mode:

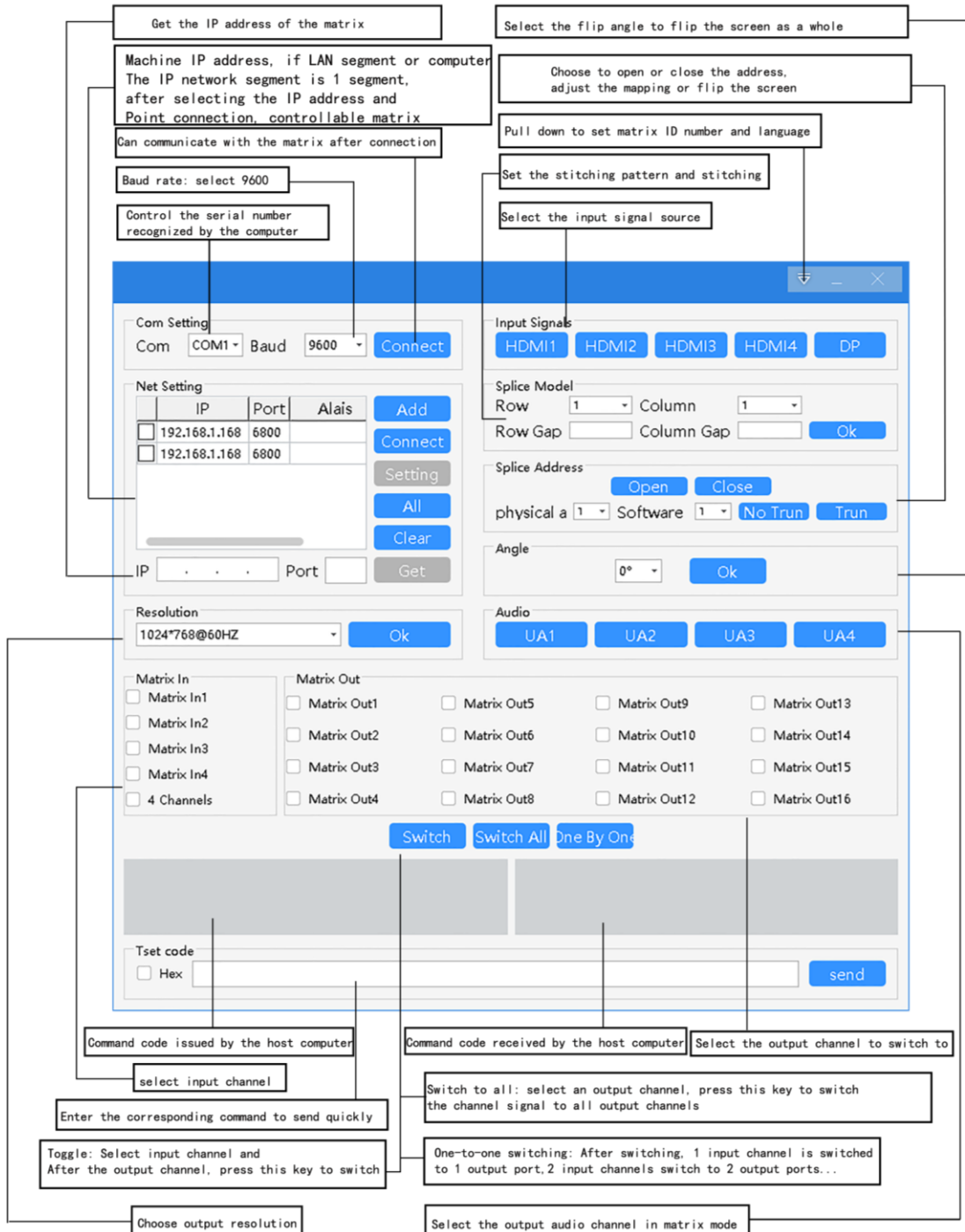
UA1-4 respectively corresponds to switching the audio of HDMI 1-4.

Example 1. If the input 2 port is switched to the output 3 interface, the switching mode is: switch → 0 → 2 → 0 → 3 → enter, and the switching is completed;

For example 2, if the input 2 port is switched to all output interfaces, the switching mode is: switch → 0 → 2 → all → enter, and the switching is completed;

PC operating instructions

Communicate through RS-232 serial port or TCP/IP, and control the device through the control software on the computer. The following is an illustration of the upper computer:



1. Communication connection: first connect the computer and the device through the RS-232 serial cable, or connect the device to the computer directly or access the local area network through the network cable;
2. The RS-232 connection must correspond to the corresponding COM port number on the computer. The serial port number can be queried on the device manager of the control panel;
3. Through TCP/IP control, the LAN or computer IP network segment must be initially set to segment 1;

4. Open the control software: open the file in the Software file, the following software interface pops up, click the serial port connection or check the IP address of the IP machine and click the connection, and then you can operate the matrix switcher.
5. Channel naming: In order to facilitate memory, the input and output channels of the control software can be renamed. The naming can be Chinese or English. The naming method is to right-click the corresponding input channel or output channel;
6. Rename of scene saving or scene loading: Rename the scene by right-clicking the corresponding button;
7. After a successful connection via RS-232 or TCP/IP, the device still cannot be controlled. Please check whether the device ID number on the control software is consistent with the ID number queried by the matrix by pressing the keys. Only when the ID number is consistent can the device be controlled.
8. Modification of the IP address of the matrix-The default IP address of the matrix is 192.168.1.168. If you need to modify the IP address due to other reasons, please modify it according to the following steps:
 - 8.1. First, make sure that it can communicate with the device through the serial port;
 - 8.2. Then follow the steps below to modify the IP address:
 - 8.2.1. Open the control software and connect to the serial port;
 - 8.2.2. Click Add, the network setting window will pop up;
 - 8.2.3. Click OK after modifying the IP address inside. The IP address must be in the same network segment as the controlling computer or LAN;
 - 8.2.4. Right-click the IP address, and the setting window will pop up again, and then click OK again (Note: You cannot check the IP before clicking the IP address);
 - 8.2.5. Check the IP, click Connect, the disconnection status is displayed at the connection, and the IP setting is successful;
9. IP address query: After the serial port assistant enters the HWC point and sends it, you can check the existing IP address in the assistant window;

Matrix Control Code

Matrix switching code format:

description	Matrix																	
	HEAD	LENS	TYPE	CMD	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13
Matrix Mode	C5	3A	03	12	00	00	CKS											
Matrix HALF	C5	3A	0A	12	02	Input / Output Table						CKS	为0x时不改变之前的输入画面，0-3：hdmi1-4,0x08为all					

Switch to matrix mode: C5 3A 0312 00 00 14

Input / Output Table is a matrix mapping table, 16 numbers, corresponding to 16 output daughter boards, add-0 is the first screen, add-15 is the sixteenth screen, and its value is 0-3 corresponding to HDMI1-4. Note: CKS = the sum of all data; only the last two digits are taken (open the computer calculator, select the programmer mode in the upper left corner, and select the HEX method to calculate).

The corresponding relationship between the Input table and the display screen is:

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	表示16块板子的输入信号显示							
f	f	f	f	f	f	f	f								
add_1	add_0	add_3	add_2	add_5	add_4	add_7	add_6		add_9	add_8	add_11	add_10	add_13	add_12	add_15

0 represents input channel 1, 1 represents input channel 2, 2 represents input channel 3, 3 represents input channel 4, 8 represents 4-split screen, and f represents not changing this bit.

Example:

Switch HDMI 1 to the first output. Send command: C5 3A 0A 12 02 f0 ff ff ff ff ff ff ff 06

Switch HDMI 1 to the second output. Send command: C5 3A 0A 12 02 0f ff ff ff ff ff ff ff 25

Switch HDMI 1 to the third output. Send command: C5 3A 0A 12 02 ff f0 ff ff ff ff ff ff 06

Switch HDMI 1 to the fourth output. Send command: C5 3A 0A 12 02 ff 0f ff ff ff ff ff ff 25

...

Switch HDMI 2 to the first output. Send command: C5 3A 0A 12 02 f1 ff ff ff ff ff ff ff 07

Switch HDMI 2 to the second output. Send command: C5 3A 0A 12 02 1f ff ff ff ff ff ff ff 35

Switch HDMI 2 to the third output. Send command: C5 3A 0A 12 02 ff f1 ff ff ff ff ff ff 07

Switch HDMI 2 to the fourth output. Send command: C5 3A 0A 12 02 ff 1f ff ff ff ff ff ff 35

...

Switch HDMI 3 to the first output. Send command: C5 3A 0A 12 02 f2 ff ff ff ff ff ff ff 08

Switch HDMI 3 to the second output. Send command: C5 3A 0A 12 02 2f ff ff ff ff ff ff ff 45

Switch HDMI 3 to the third output. Send command: C5 3A 0A 12 02 ff f2 ff ff ff ff ff ff 08

Switch HDMI 3 to the fourth output. Send command: C5 3A 0A 12 02 ff 2f ff ff ff ff ff ff 45

...

Switch HDMI 4 to the first output. Send command: C5 3A 0A 12 02 f3 ff ff ff ff ff ff ff 09

Switch HDMI 4 to the second output. Send command: C5 3A 0A 12 02 3f ff ff ff ff ff ff ff 55

Switch HDMI 4 to the third output. Send command: C5 3A 0A 12 02 ff f3 ff ff ff ff ff ff 09

Switch HDMI 4 to the fourth output. Send command: C5 3A 0A 12 02 ff 3f ff ff ff ff ff ff 55

...

Example: Switch the 4-split screen to the first output.

Send command: C5 3A 0A 12 02 f8 ff ff ff ff ff ff ff 0E

One-to-one switching: HDMI1 switches to channel 1, HDMI2 switches to channel 2, HDMI3 switches to channel 3, and HDMI4 switches to channel 4:

Send command: C5 3A 0A 12 02 10 32 ff ff ff ff ff ff 59

Resolution command:

1024*768@60HZ: C5 3A 03 13 00 00 15

1280*800@60HZ: C5 3A 03 13 00 01 16

1280*720@60HZ: C5 3A 03 13 00 02 17

1920*1080@60HZ: C5 3A 03 13 00 03 18

1920*1200@60HZ : C5 3A 03 13 00 04 19

Matrix mode audio switching:

UA1: C5 3A 03 12 80 01 95

UA2: C5 3A 03 12 80 02 96

UA3: C5 3A 03 12 80 03 97

UA4: C5 3A 03 12 80 04 98

Splicing mode code:

1.Switch to splice mode: C5 3A 03 10 00 00 12;

2. Control signal source switching; Splicer Source: C5 3A 03 10 01 Source CKS

Switch to signal source HDMI1:C5 3A 0310010114;

Switch to signal source HDMI2:C5 3A 0310010215;

Switch to signal source HDMI 3:C5 3A 0310010316;

Switch to signal source HDMI4:C5 3A 0310010417;

Switch to signal source DP:C5 3A 0310010518;