



maxsquare

MSQ-X200

4x4 HDMI Matrix with Multi-Viewer & Video Wall



MADE IN TAIWAN

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1. Introduction

The **MSQ-X200 4x4 HDMI Matrix with Multi-Viewer & Video Wall** is a powerful and flexible AV solution designed to meet a wide range of display requirements in both commercial and professional settings. It features three distinct display modes: Matrix Mode, Multi-Viewer Mode, and Video Wall Mode.

In Matrix Mode, users can independently route any of the four HDMI input sources to any of the four output displays. This is ideal for multi-room installations or complex AV setups. Multi-Viewer Mode allows up to four video sources to be displayed simultaneously on a single screen, with customizable layouts including quad-view, picture-in-picture, and picture-on-picture. This is especially useful for control rooms, live production, and monitoring environments. Video Wall Mode enables one video source to be stretched across up to four screens and supports dynamic, fully adjustable layouts. This allows for an impressive and immersive viewing experience that adapts to different display configurations.

The MSQ-X200 supports resolutions up to 4K at 30Hz with 4:4:4 color sampling and 8-bit color depth, ensuring vivid and accurate image quality. With HDCP 1.4 compliance, EDID management, audio pass-through, and software-based control, it provides both reliability and convenience. This makes it an excellent choice for home theaters, conference rooms, retail displays, digital signage, and more.

2. Features

- Supports Matrix, Multi-Viewer & Video Wall display modes
- Compliant with HDMI 1.4 and HDCP 1.4
- Supports input resolutions from 640x480 up to 4K2K@30 (4:4:4 8bits)
- Supports output resolutions up to 4K2K@30Hz (4:4:4 8bits)
- Allows any HDMI source to be displayed on multiple displays simultaneously
- Allows any HDMI display to view any HDMI source at any time
- Supports default and user-defined EDID management
- Matrix: Output channels can be switched via push-button control on the front panel
- Video Wall: Supports flexible configurations (Default: 1x1, 1x2, 2x1, 1x3, 3x1, 2x2, 1x4, 4x1) and includes flip function
- Offers user-selectable output resolution settings up to 4K@30Hz
- Supports layout and image parameter presets, automatically saved to internal memory
- Multiple layout configurations can be saved and recalled as needed
- Layout size and position can be adjusted via software interface
- Supports various display formats including PIP, PBP, POP, full screen, and quad-view
- Firmware upgradeable via software for future feature enhancements and performance improvements



Does not support Dolby or DTS audio formats.

3. Specifications

MSQ-X200

Technical	
Role of usage	4x4 HDMI Matrix / Multi-Viewer / Video Wall
HDCP compliance	HDMI 1.4
HDMI compliance	HDMI 1.4
Video bandwidth	HDMI 300MHz [7.2Gbps]
Video Support	Up to 4K2K@30 (4:4:4 8bits)
Video Format Support	HDMI
Audio support	Bypass / Programed
Embedded video mixer	Yes
Input TMDS signal	1.2 Volts [peak to peak]
ESD protection	Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]
Input	4x HDMI + 1x TOSLINK
Output	4x HDMI + 1x TOSLINK
Control	Front Panel/ USB-C
HDMI connector	Type A [19-pin female]
USB connector	Type C
Mechanical	
Housing	Metal enclosure
Power supply	12V DC
Power consumption	5 Watts [max]
Operation temperature	0~40°C [32~104°F]
Storage temperature	-20~60°C [-4~140°F]
Relative humidity	20~90% RH [no condensation]

4. Panel Description

Front Panel



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1. **IR Sensor:** Receive IR commands from the IR remote
2. **Push Button:** Please refer to "OPERATION APPROACH: Method A: Push-in Button" section

Rear Panel



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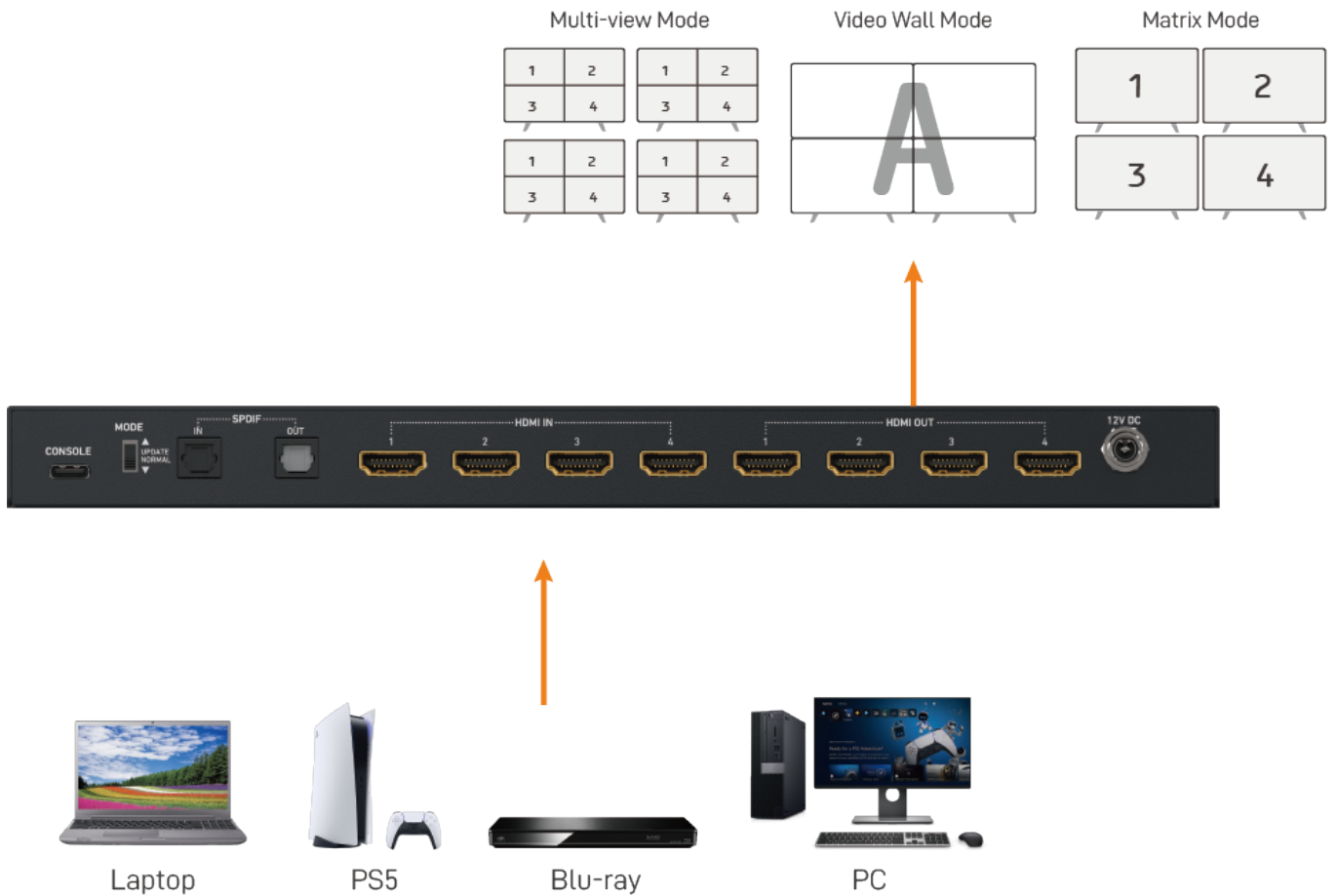
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3. **USB-C:** Console port
4. **Dip Switch:**
[UP] Firmware update mode
[Down] Working mode
5. **TOSLINK Input:** S/PDIF in
6. **TOSLINK Output:** S/PDIF out
7. **INPUT 1-4:** HDMI inputs
8. **OUTPUT 1-4:** HDMI outputs
9. **+12V DC:** 12V DC power jack

5. Package Contents

- 1x MSQ-X200
- 1x DC 12V
- 1x IR Remote
- 1x User Manual

6. Connection Diagram



7. Operation Approach

Method A: Push-in Button



1. Matrix Mode

- (1) Push Button A: Select Mode(Matrix/Multi-View/Video Wall)
- (2) Push Button B: Select HDMI output 1 channel source
- (3) Push Button C: Select HDMI output 2 channel source
- (4) Push Button D: Select HDMI output 3 channel source
- (5) Push Button E: Select HDMI output 4 channel source

2. Multi-View Mode

- (1) Push Button A: Select Mode(Matrix/Multi-View/Video Wall)
- (2) Push Button B: Switch default layout on full screen and dual-view mode
- (3) Push Button C: Switch default layout on quad-view mode
- (4) Push Button D: Switch source on dual/quad-view mode
- (5) Push Button E: Switch the output resolution

3. Video Wall Mode

- (1) Push Button A: Select Mode(Matrix/Multi-View/Video Wall)
- (2) Push Button B: Select HDMI input 1-4 source
- (3) Push Button C: Select default layout (1x1, 1x2, 2x1, 1x3, 3x1, 2x2, 1x4, 4x1)
- (4) Push Button D: Select flip function (off, vertical flip, horizontal flip & H/V flip)
- (5) Push Button E: Switch the output resolution

Method B: IR Remote Control



Button	Function
MENU	Turn on the OSD menu
UP	Arrow button (up)
POWER	Power ON/OFF
LEFT	Arrow button (left)
OK	OK/enter key
RIGHT	Arrow button (right)
INFO	Output resolution message ON/OFF
DOWN	Arrow button (down)
RETURN	Return to the previous screen / Exit OSD menu at top level
IN1	Select HDMI Input 1 as the input source
OUT1	Select HDMI Output 1 as the output display
MODE	Select Mode (Matrix/Multi-View/Video Wall)
IN2	Select HDMI Input 2 as the input source
OUT2	Select HDMI Output 2 as the output display
RES.	Switch output resolution
IN3	Select HDMI Input 3 as the input source
OUT3	Select HDMI Output 3 as the output display
LAYOUT	Select default layout
IN4	Select HDMI Input 4 as the input source
OUT4	Select HDMI Output 4 as the output display
TAKE	Trigger the setting

1. OSD Menu

Main Menu	Item
Brightness/Contrast	Brightness, Contrast
Info	Current Display Mode (Matrix/Multi-View/Video Wall)

2. IN/OUT Switch

Operation	Item
Matrix Mode IN/OUT Switch	Push the button on the checkerboard to select input & output port

1. Press "IN2" button
2. Press "OUT3" button
3. Press "TAKE" button

Ex: Input 2
To Output 3



Video Mode IN/OUT Switch	Push the button on the checkerboard to select input
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1. Press "IN2" button
2. Press "TAKE" button

Ex: Input 2



Method C: Software Control through USB-C port

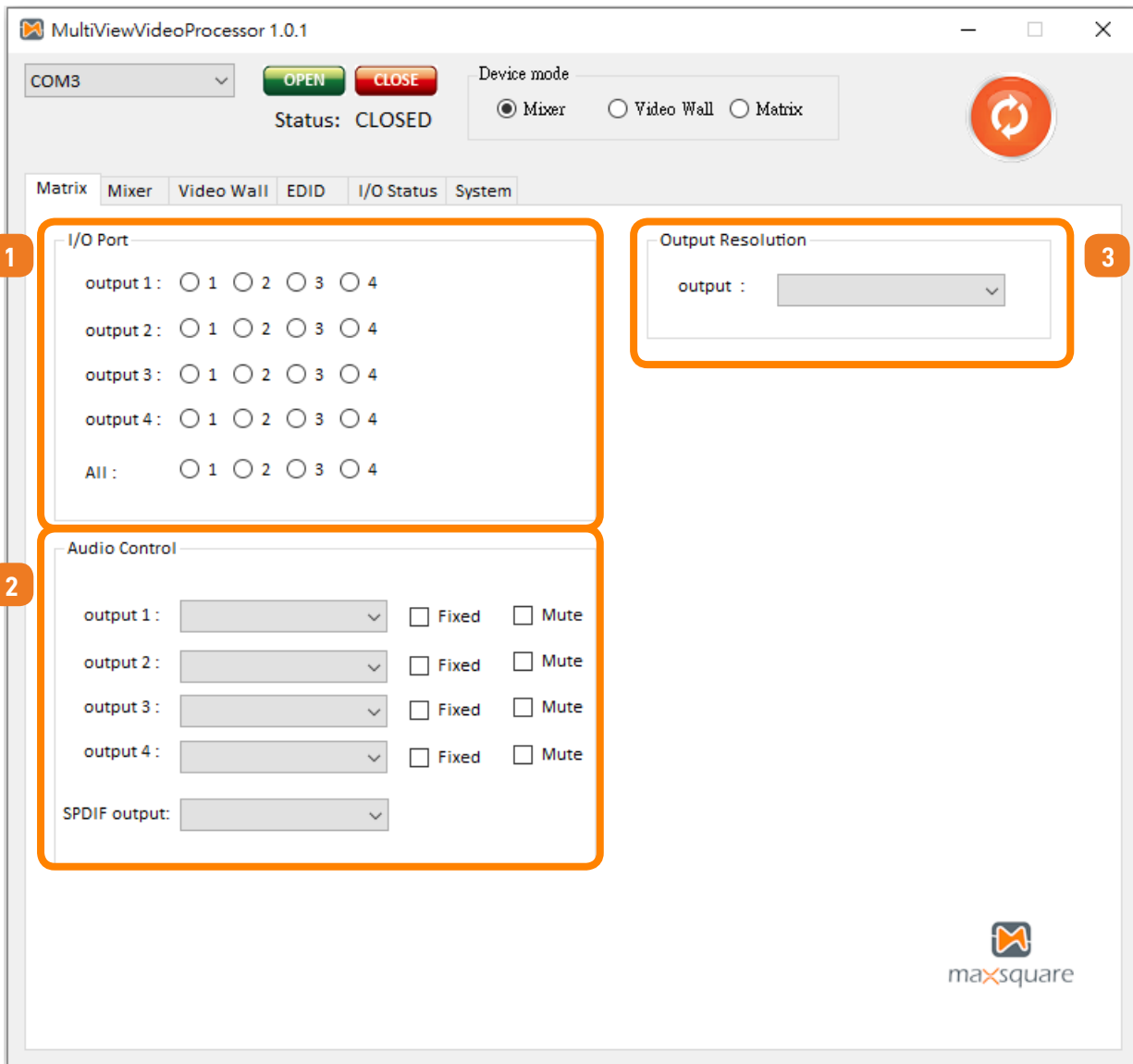
1. System Requirement

- (1) OS Information: MS Win 10/11
- (2) Baud rates: 115200
- (3) Software size: 1 MB
- (4) Minimum RAM requirement: 256 MB



1	COM Port Selection
2	Connect to Device
3	Disconnect to Device
4	Matrix Tab
5	Mixer Tab
6	Video Wall Tab
7	EDID Tab
8	I/O Status Tab
9	System Tab
10	Device Mode Selection
11	Refresh Device Status Button

1. Matrix Tab



(1) I/O Mapping:

- Switch the input for each output

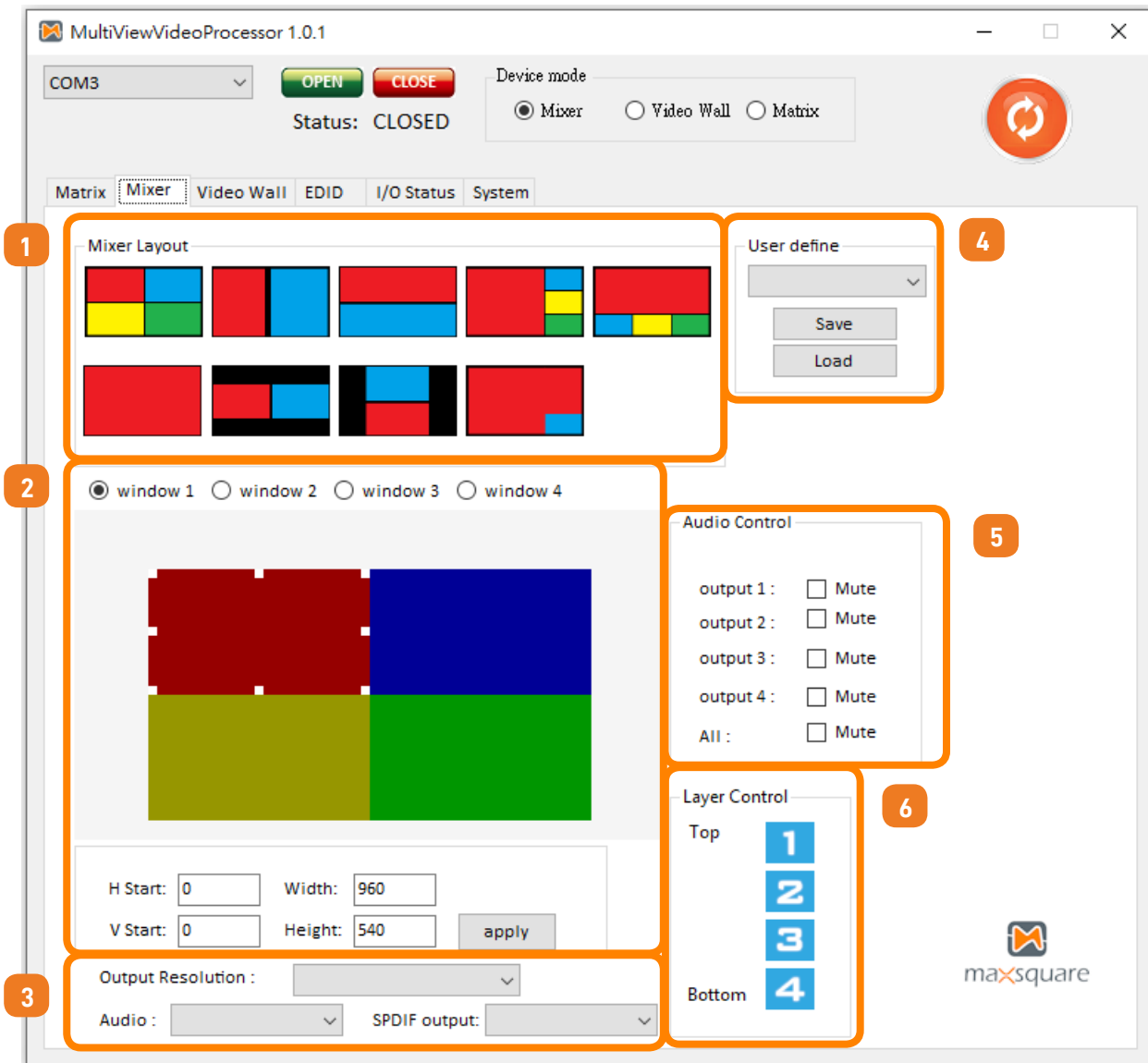
(2) Audio Control:

- Select audio source by using drop-down list and then click "Fixed" to fix the selected audio source on HDMI output 1-4 and S/PDIF output
- Click "Mute" to turn on or off the output 1-4 audio

(3) Output Resolution:

- Select output resolution by using drop-down list

2. Mixer Tab



(1) Mixer Layout:

- There are 9 default layouts for user to select

(2) Mixer Display Panel (on User Define layout):

- In this control interface, user can click window 1-4 to choose which input window you want to adjust. Then user can customize the display mode thru control. The information of coordinate shows the position of input source screen and user also can adjust input window position by setting coordinate. After adjusting window layout, user can click "apply" button to apply the configuration. The different colors represent the different input windows.

(3) Output Resolution & Audio Source Selection:

- There are 9 default layouts for user to select

(4) User Define:

- There are 4 user-defined (User 1-4) for user to save and load.
- User can click "Save" button to save the configuration to user-defined layout for future usage or click "Load" button to load the saved user-defined layout

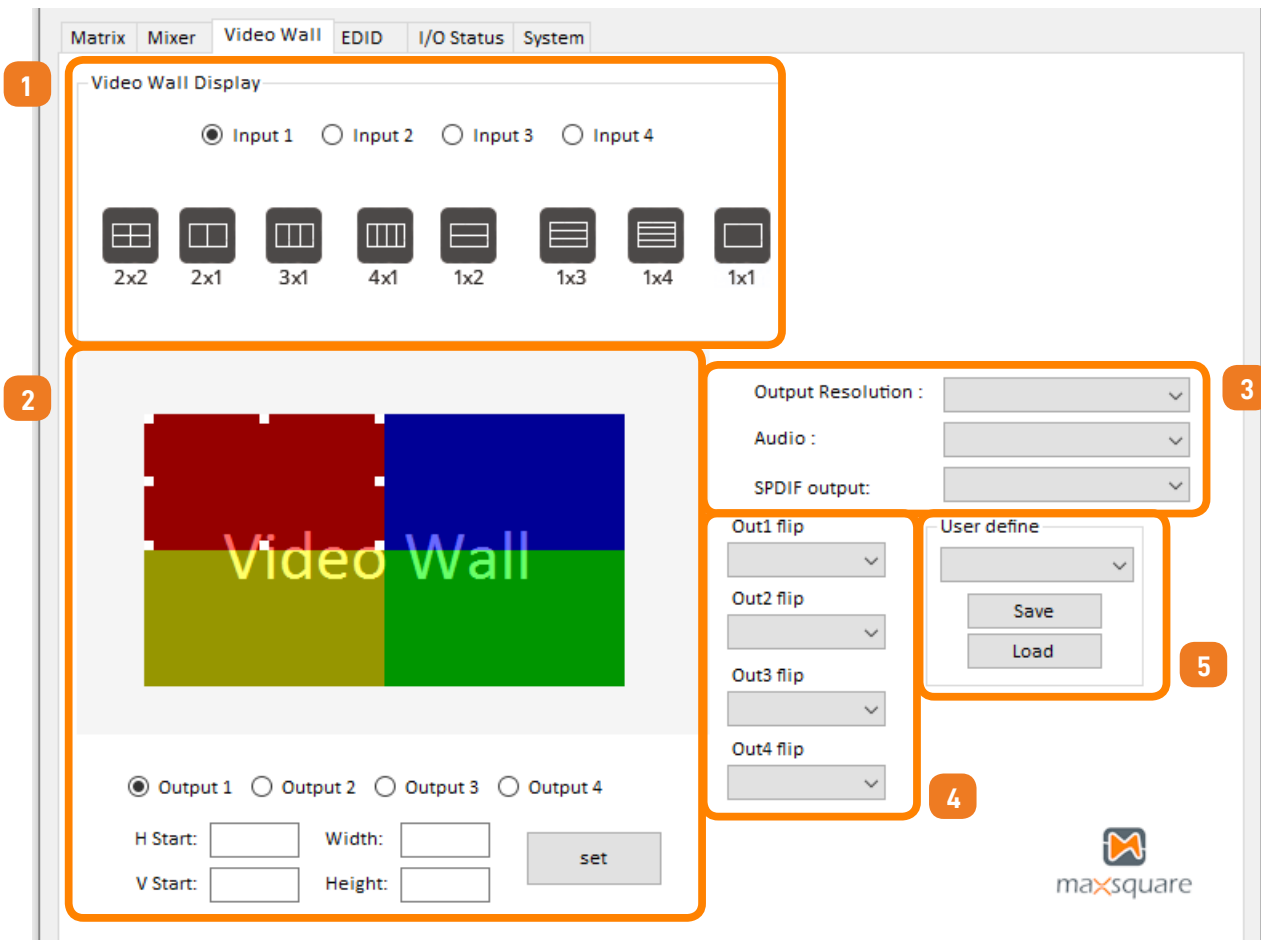
(5) Audio Control:

- Click "Mute" to turn on or off the output 1-4 or all outputs audio

(6) Layer Control:

- User can change window layer by dragging window icon

3. Video Wall Tab



(1) Video Wall Display:

- Select input source 1-4
- There are 8 default layouts for user to select

(2) Output Layout Windows:

- User can click output 1-4 to choose which output window you want to adjust. Then user can view the screen status and control the position of output TV through the windows. User also can adjust the output position by setting coordinate. The different colors of window represent the different output TVs. After adjusting window layout, user can click the "set" button to apply the configuration.

(3) Output Resolution & Audio Source Selection:

- Select output resolution/audio source by using drop-down list

(4) Flip function:

- Select the flip function (Off, Horizontal flip (H flip), Vertical flip (V flip), or Horizontal & Vertical flip (HV flip)) for output 1-4

(5) User Define:

- There are 4 user-defined (User 1-4) for user to save and load.
- User can click "Save" button to save the configuration to user-defined layout for future usage or click "Load" button to load the saved user-defined layout

4. EDID Tab

The screenshot shows the EDID configuration window. At the top, there are tabs for Matrix, Mixer, Video Wall, EDID (highlighted), I/O Status, and System. Below the tabs, there are two main sections. The first section, labeled 'EDID', contains four input fields: 'Input 1:', 'Input 2:', 'Input 3:', and 'Input 4:', each with a dropdown arrow. The second section, labeled 'User Define EDID', contains an 'Index:' dropdown, a 'File Name:' text input field, and two buttons: 'Load' and 'Apply'.

(1) EDID:

- Select EDID by using drop-down list to HDMI input 1-4

(2) User Defined EDID:

- Use drop-down list to select user-defined 1-4
- Click "Load" button to select the EDID file from computer
- Click "Apply" button to load EDID File to selected user-defined 1-4

5. I/O Status Tab

MultiViewVideoProcessor 1.0.1

COM3 Status: CLOSED

Device mode
 Mixer Video Wall Matrix

Matrix Mixer Video Wall EDID **I/O Status** System

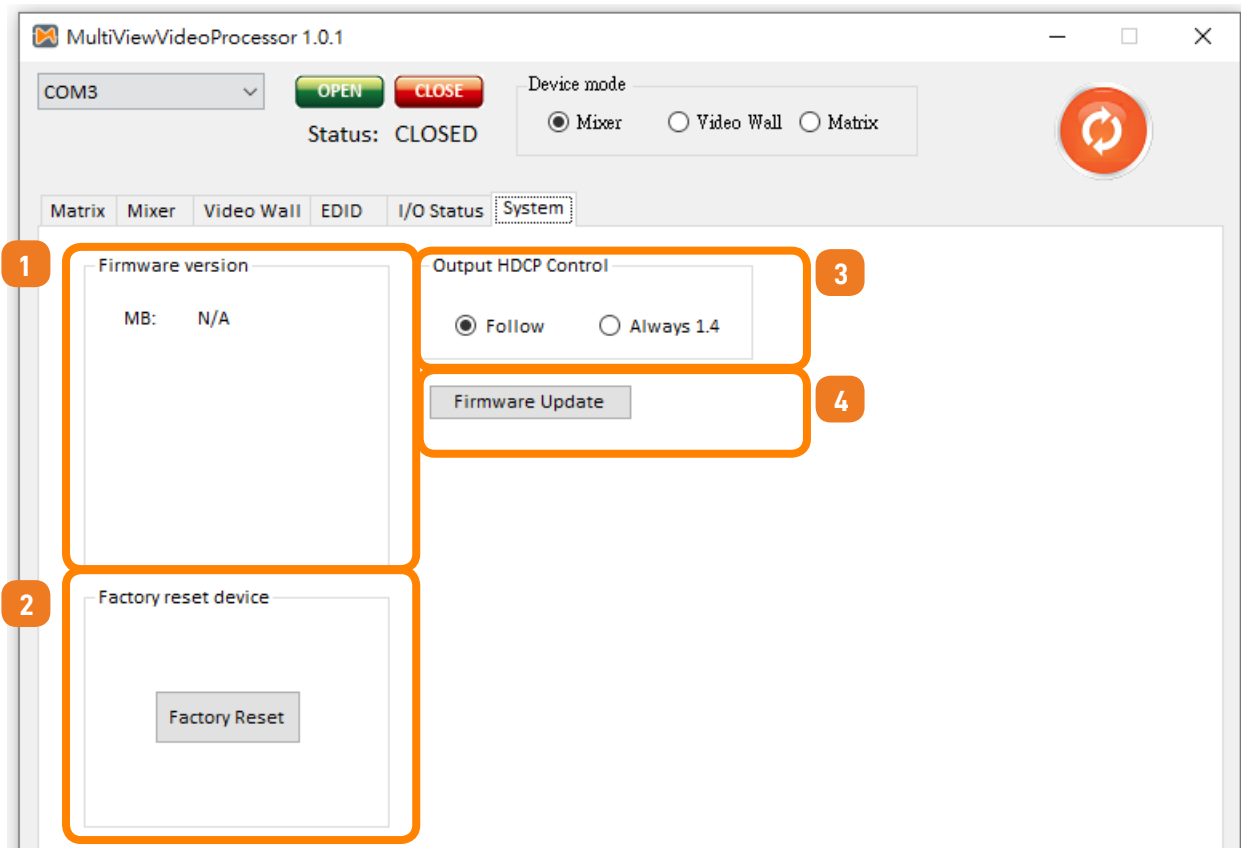
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Input	Connected	Resolution	Color Space	HDCP
Input 1 :	X		X	X
Input 2 :	X		X	X
Input 3 :	X		X	X
Input 4 :	X		X	X

(1) Input Status:

- To show the information of the input connection, resolution, color space and HDCP

6. System Tab



(1) Firmware Version:

- To show firmware version information

(2) Factory Reset Device:

- To do factory default reset

(3) Output HDCP Control:

- "Follow": HDCP follow the source
- "Always 1.4": HDCP is always 1.4

(4) Firmware Update:

- To update firmware
 - ▶ Set the Port Type to "USB."
 - ▶ Click "..." to load the file.
 - ▶ Move the dip switch to the "up" position (F/W update mode) and power cycle the device.
 - ▶ Within 7 seconds, select the USB Device Serial No., then click "Download" to start the update process.
 - ▶ After the update is complete, move the dip switch to the "down" position (working mode) and power cycle the device again.

8. Limited Warranty

Maxsquare warrants the **MSQ-X200 4x4 HDMI Matrix with Multi-Viewer & Video Wall** for one year from the date of purchase from Maxsquare or an authorized dealer from defects in material and workmanship. If this product fails to function properly within the first year of its warranty, Maxsquare may repair or replace it at its discretion, provided that the device has not been subjected to accident, disaster, abuse, or other unauthorized modifications, including static discharge and power surge. Maxsquare provides this warranty to its BUYER solely in the case of a direct transaction. This warranty is void if the warranty seal on the metal housing is broken.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. These repairs are warranted by a 90-day warranty from the date of reshipment to the buyer. Customers agree to ensure the unit or incur the risk of loss or damage in transit if the unit is delivered by mail. A unit will not be accepted if it does not have a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of purchase may be required to claim the warranty. Customers outside of Taiwan must pay for shipping to and from Maxsquare. Cables and power adapters have a 30-day warranty and must be free of any markings or scratches, as well as neatly coiled.

This manual's material has been carefully reviewed and is believed to be accurate. Maxsquare, on the other hand, takes no responsibility for any inaccuracies or omissions in this manual. Even if advised of the possibility of such losses, Maxsquare will not be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual. Furthermore, the technical information contained in documents on the MSQ-X200's features and specifications is subject to change without further notice.



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